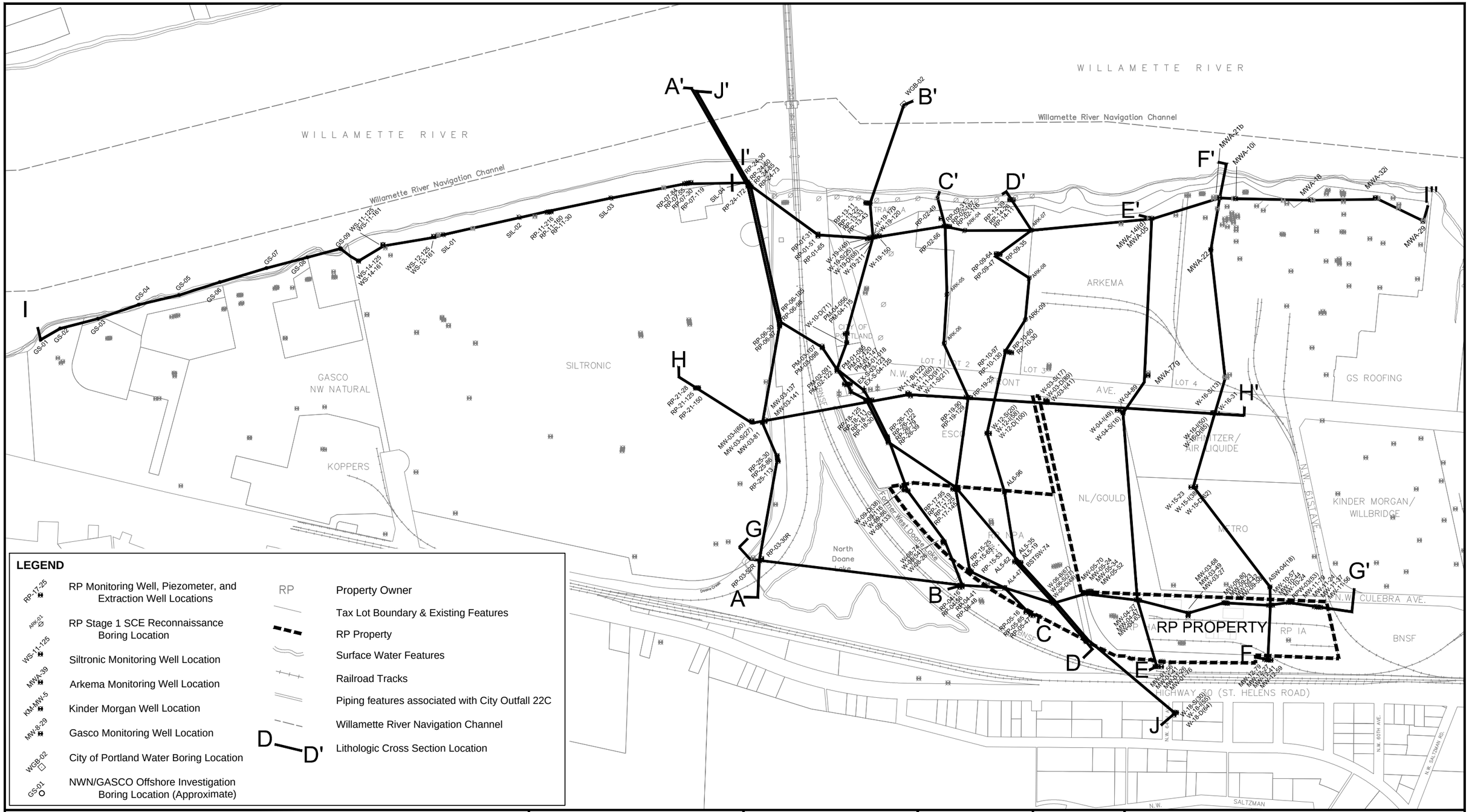

LEGEND

- RP-17-25 — RP Monitoring Well, Piezometer, and Extraction Well Locations
- ARK-01 — RP Stage 1 SCE Reconnaissance Boring Location
- WS-11-125 — Siltronic Monitoring Well Location
- MWA-39 — Arkema Monitoring Well Location
- KM-MW-5 — Kinder Morgan Well Location
- MW-8-29 — Gasco Monitoring Well Location
- WGB-02 — City of Portland Water Boring Location
- GS-01 — NWN/GASCO Offshore Investigation Boring Location (Approximate)
- RP — Property Owner
- Tax Lot Boundary & Existing Features
- RP Property
- Surface Water Features
- Railroad Tracks
- Piping features associated with City Outfall 22C
- Willamette River Navigation Channel
- D — D' — Lithologic Cross Section Location

0' 225' 450' 675'

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7376 S.W. Durham Road
Portland, OR. U.S.A. 97224

DRAWN BY:	BRJ
QC BY:	CJ
DATE DRAWN:	OCTOBER 2010
DATUM / PROJECTION:	NAD83 / OR SP N Int Ft
PROJECT NO:	061M107030.0202.001

TITLE:

FIGURE 6-E
GEOLOGIC CROSS SECTION LOCATION MAP

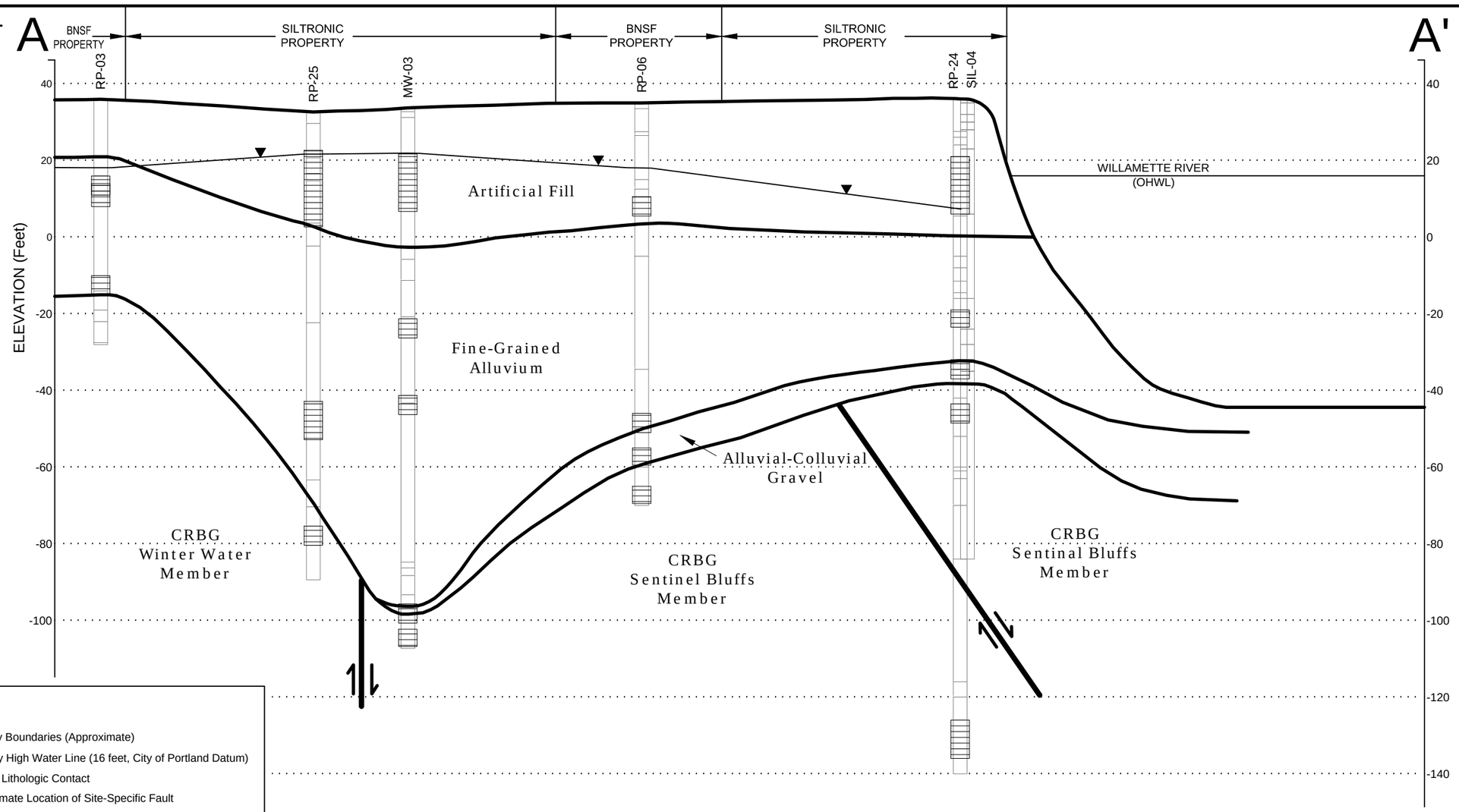
REPORT:

RI / SCE REPORT
RP - PORTLAND SITE

P:\10703\0100 RI-FS-ROD\0104 RI Report\Draft RI\Figures\dwg\Figure 6-E Geologic Cross Section Location Map.dwg — XSections — Oct. 27, 2010 11:41am — brian.johnson

SOUTHWEST A

A' NORTHWEST



LEGEND

- BNSF — Property Boundaries (Approximate)
- OHWL — Ordinary High Water Line (16 feet, City of Portland Datum)
- Inferred Lithologic Contact
- Approximate Location of Site-Specific Fault
- Water Table
- Fault Showing Relative Direction of Movement
- RP-17 — Monitoring Well Cluster Identifier
- Screen Interval

CRBG = COLUMBIA RIVER BASALT GROUP

Notes:

Stratigraphy between depicted borings is interpreted from additional borings not shown on this cross section.
Stratigraphy at borings shown on cross section may incorporate observations from multiple borings at a single well cluster.

0' 125' 250' 375'

amec

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7376 S.W. Durham Road
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DATE DRAWN: OCTOBER 2010

VERTICAL DATUM: City of Portland

PROJECT NO: 061M107030.0202.001

TITLE:

FIGURE 6-F
GEOLOGIC CROSS SECTION A-A'

REPORT:

RI / SCE REPORT
RP - PORTLAND SITE

P:\10703\0100 RI-FS-ROD\0104 RI Report\Draft RI\Figures\dwg\Figure 6-F Geologic Cross Section A-A'.dwg — Layout — Oct. 27, 2010 11:41am — brian.johnson

SOUTH WEST **B** — **B'** NORTH EAST

BNSF | RP PROPERTY (NORTHWEST PROPERTY AREA) | ESCO PROPERTY | EX-S-04-125 CITY OF PORTLAND | BNSF PROPERTY | CITY OF PORTLAND | NW FRONT AVENUE | ARKEMA LOT 1 | ARKEMA TRACT A

RP-04, W-08, W-09, RP-26, RP-18, PM-02, W-16-D(71), PM-04, W-19, RP-13

ELEVATION (Feet)

40, 20, 0, -20, -40, -60, -80, -100, -120, -140, -160, -180

Artificial Fill

Artificial Fill

WILLAMETTE RIVER (OHWL)

Fine-Grained Alluvium

Alluvial-Colluvial Gravel

Alluvial-Colluvial Gravel

CRBG Sentinal Bluffs Member

CRBG Winter Water Member

CRBG Pomona Member

Alluvial-Colluvial Gravel

CRBG Sentinal Bluffs Member

CRBG Winter Water Member

CRBG Winter Water Member

LEGEND

- BNSF — Property Boundaries (Approximate)
- OHWL — Ordinary High Water Line (16 feet, City of Portland Datum)
- Inferred Lithologic Contact
- Approximate Location of Site-Specific Fault
- Water Table
- Fault Showing Relative Direction of Movement
- W-08 — Monitoring Well Cluster Identifier
- Screen Interval

CRBG = COLUMBIA RIVER BASALT GROUP

Notes:

Stratigraphy between depicted borings is interpreted from additional borings not shown on this cross section.
Stratigraphy at borings shown on cross section may incorporate observations from multiple borings at a single well cluster.

0' 125' 250' 375'

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Portland, OR. U.S.A. 97224

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DATE DRAWN: OCTOBER 2010
VERTICAL DATUM: City of Portland
PROJECT NO: 061M107030.0202.001

TITLE:
FIGURE 6-G
GEOLOGIC CROSS SECTION B-B'

REPORT:
RI / SCE REPORT
RP - PORTLAND SITE

P:\10703\0100 RI-FS-ROD\0104 RI Report\Draft RI\Figures\dwg\Figure 6-G Geologic Cross Section B-B'.dwg — Layout — Oct. 27, 2010 11:41am — brian.johnson

SOUTHWEST C

C' NORTHEAST

BNSF PROPERTY | RP-05 | AL4 | RP-15 | RP-17 | RP-19 | NW FRONT AVENUE | ARK-06 | ARK-05 | RP-02 | ARK-16

RP PROPERTY (NORTHWEST PROPERTY AREA)

ESCO PROPERTY

ARKEMA LOT 1

ARKEMA LOT 2

ARKEMA TRACT A

ELEVATION (Feet)

40 20 0 -20 -40 -60 -80 -100 -120 -140 -160

Artificial Fill

WILLAMETTE RIVER (OHWL)

Fine-Grained Alluvium

Alluvial-Colluvial Gravel

Alluvial-Colluvial Gravel

CRBG Undifferentiated

CRBG Sentinal Bluffs Member

CRBG Sentinal Bluffs Member

LEGEND

- BNSF — Property Boundaries (Approximate)
- OHWL — Ordinary High Water Line (16 feet, City of Portland Datum)
- Inferred Lithologic Contact
- Approximate Location of Site-Specific Fault
- Water Table
- Fault Showing Relative Direction of Movement
- RP-19 — Monitoring Well Cluster Identifier
- Screen Interval

CRBG = COLUMBIA RIVER BASALT GROUP

Notes:

Stratigraphy between depicted borings is interpreted from additional borings not shown on this cross section.
Stratigraphy at borings shown on cross section may incorporate observations from multiple borings at a single well cluster.

0' 125' 250' 375'

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Portland, OR. U.S.A. 97224

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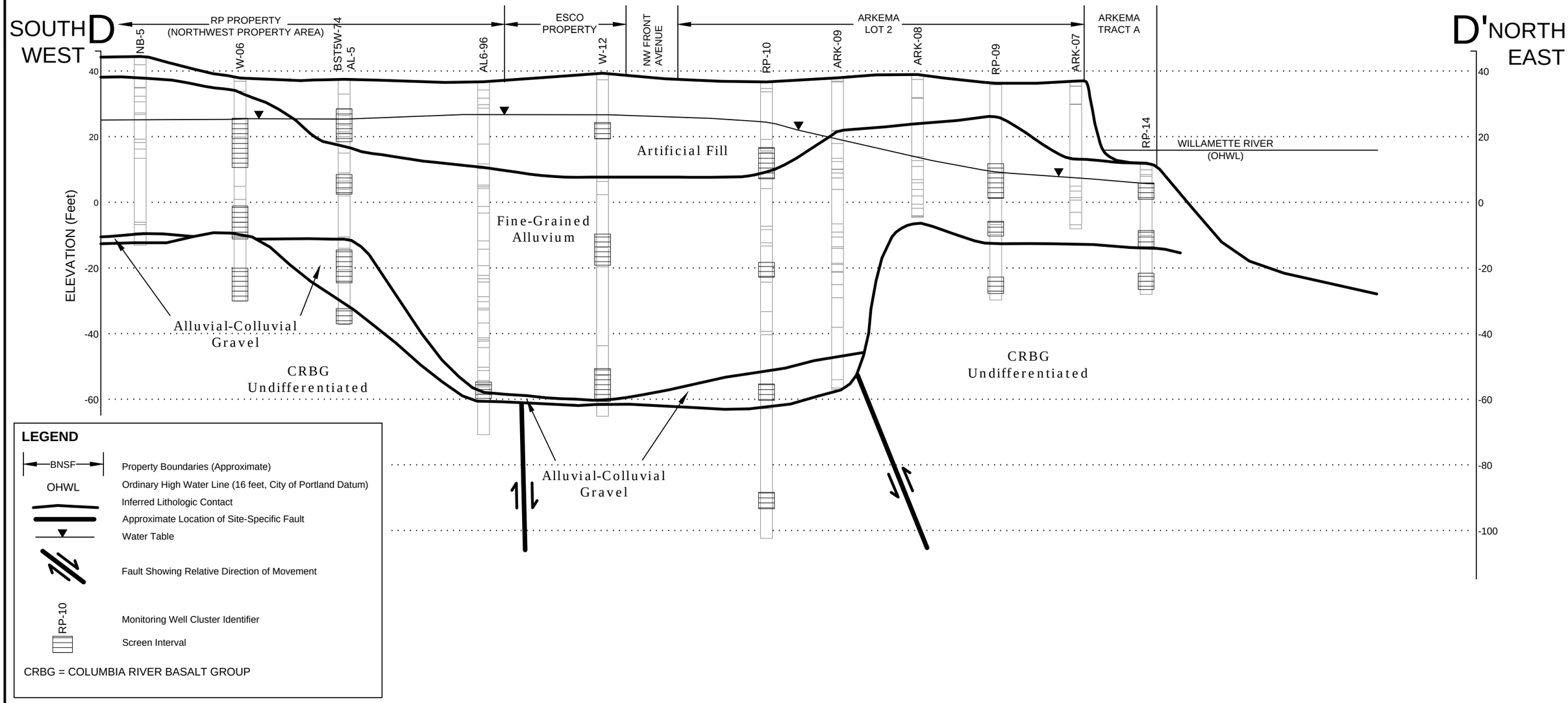
DATE DRAWN: OCTOBER 2010
VERTICAL DATUM: City of Portland
PROJECT NO: 061M107030.0202.001

TITLE:
FIGURE 6-H
GEOLOGIC CROSS SECTION C-C'

REPORT:
RI / SCE REPORT
RP - PORTLAND SITE



LEGEND

- BNSF — Property Boundaries (Approximate)
- OHWL — Ordinary High Water Line (16 feet, City of Portland Datum)
- Inferred Lithologic Contact
- Approximate Location of Site-Specific Fault
- Water Table
- Fault Showing Relative Direction of Movement
- RP-10 — Monitoring Well Cluster Identifier
- Screen Interval

CRBG = COLUMBIA RIVER BASALT GROUP

Notes:

Stratigraphy between depicted borings is interpreted from additional borings not shown on this cross section.
Stratigraphy at borings shown on cross section may incorporate observations from multiple borings at a single well cluster.

0' 125' 250' 375'

amec

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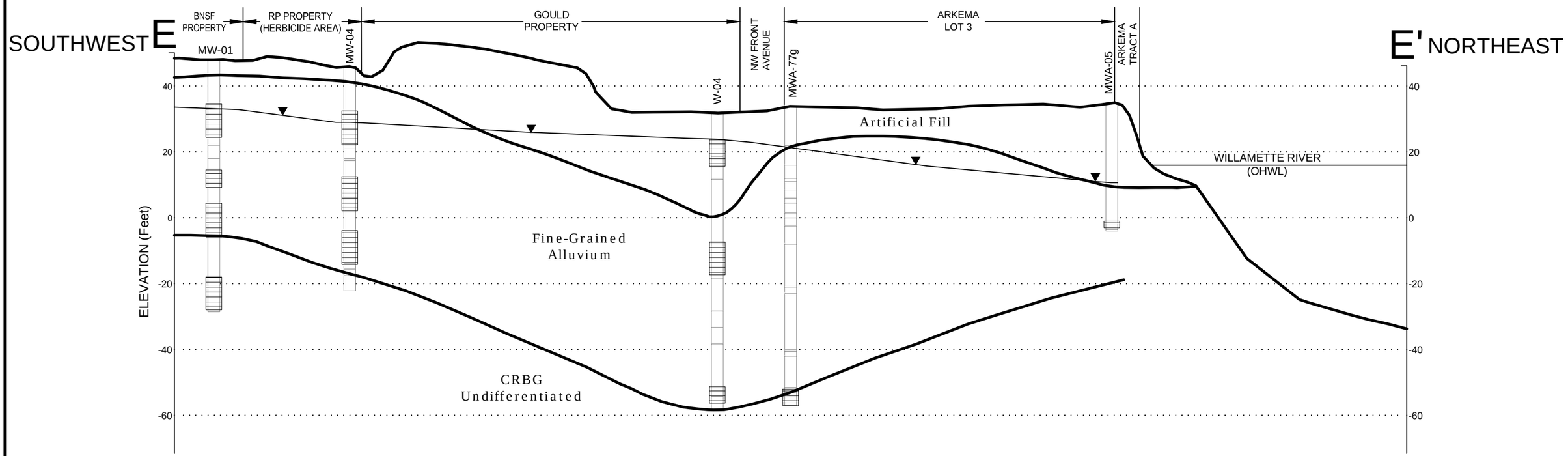
VERTICAL DATUM: City of Portland
PROJECT NO: 061M107030.0202.001

TITLE:
FIGURE 6-I
GEOLOGIC CROSS SECTION D-D'

REPORT:
RI / SCE REPORT
RP - PORTLAND SITE

P:\10703\0100 RI-FS-ROD\0104 RI Report\Draft RI\Figures\dwg\Figure 6-I Geologic Cross Section D-D'.dwg — Layout — Oct. 27, 2010 11:41am — brian.johnson



LEGEND

- BNSF — Property Boundaries (Approximate)
- OHWL — Ordinary High Water Line (16 feet, City of Portland Datum)
- Inferred Lithologic Contact
- Approximate Location of Site-Specific Fault
- Water Table
- MW-01 — Monitoring Well Cluster Identifier
- Screen Interval

CRBG = COLUMBIA RIVER BASALT GROUP

Notes:

Stratigraphy between depicted borings is interpreted from additional borings not shown on this cross section.
Stratigraphy at borings shown on cross section may incorporate observations from multiple borings at a single well cluster.

0' 125' 250' 375'

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PROJECT NO: 061M107030.0202.001

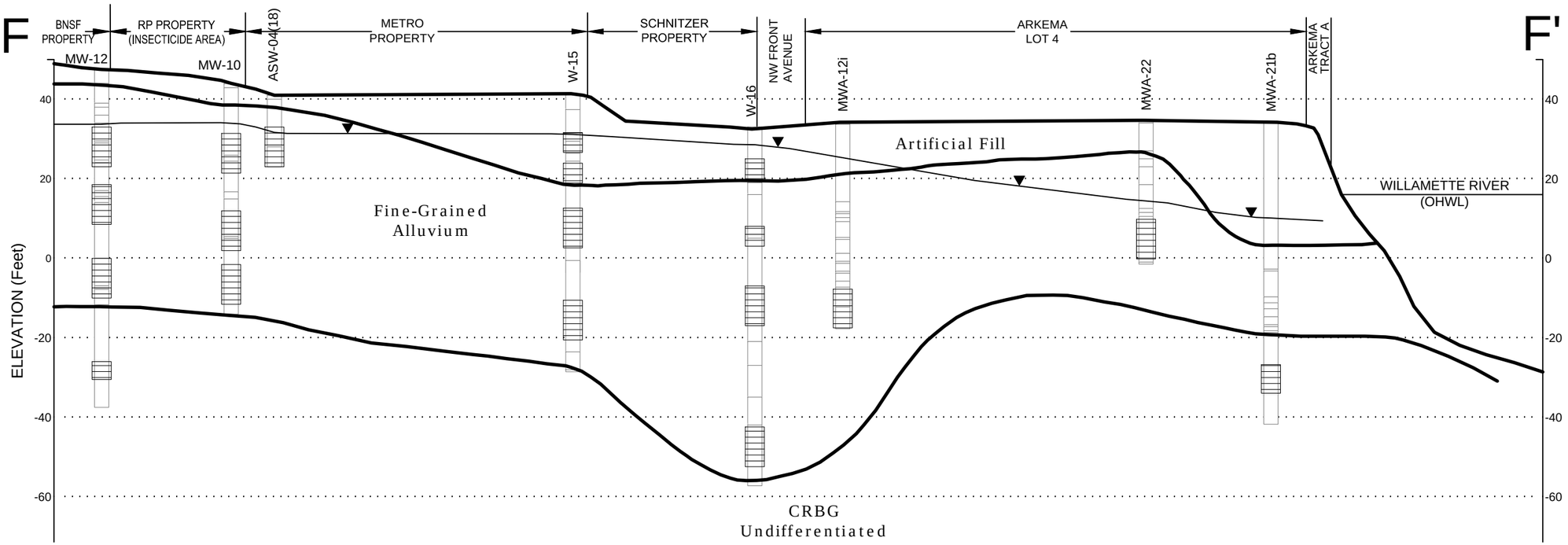
TITLE:
FIGURE 6-J
GEOLOGIC CROSS SECTION E-E'

REPORT:
RI / SCE REPORT
RP - PORTLAND SITE

P:\10703\0100 RI-FS-ROD\0104 RI Report\Draft RI\Figures\dwg\Figure 6-J Geologic Cross Section E-E'.dwg — Layout — Oct. 27, 2010 11:41am — brian.johnson

SOUTH WEST

F



F' NORTHEAST

LEGEND

- BNSF — Property Boundaries (Approximate)
- OHWL — Ordinary High Water Line (16 feet, City of Portland Datum)
- Inferred Lithologic Contact
- Approximate Location of Site-Specific Fault
- Water Table
- MW-12 — Monitoring Well Cluster Identifier
- Screen Interval

CRBG = COLUMBIA RIVER BASALT GROUP

Notes:

Stratigraphy between depicted borings is interpreted from additional borings not shown on this cross section.
Stratigraphy at borings shown on cross section may incorporate observations from multiple borings at a single well cluster.

0' 125' 250' 375'

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VERTICAL DATUM: City of Portland
PROJECT NO: 061M107030.0202.001

TITLE:
FIGURE 6-K
GEOLOGIC CROSS SECTION F-F'

REPORT:
RI / SCE REPORT
RP - PORTLAND SITE

P:\10703\0100 RI-FS-ROD\0104 RI Report\Draft RI\Figures\dwg\Figure 6-K Geologic Cross Section F-F'.dwg — Layout — Oct. 27, 2010 11:41am — brian.johnson

NORTH WEST

G

G' SOUTH EAST

BNSF PROPERTY

RP PROPERTY (NORTHWEST PROPERTY AREA)

RP PROPERTY (HERBICIDE AREA)

RP PROPERTY (INSECTICIDE AREA)

RP-03 RP-04 AL4 W-06 MW-05 MW-04 MW-03 MW-09 MW-10 RPW-03 MW-11

NORTH DOANE LAKE

Artificial Fill

Artificial Fill

Fine-Grained Alluvium

Fine-Grained Alluvium

Alluvial-Colluvial Gravel

Alluvial-Colluvial Gravel

CRBG Undifferentiated

CRBG Undifferentiated

ELEVATION (Feet)

40
20
0
-20
-40
-60

LEGEND

- BNSF — Property Boundaries (Approximate)
- OHWL — Ordinary High Water Line (16 feet, City of Portland Datum)
- Inferred Lithologic Contact
- Approximate Location of Site-Specific Fault
- Water Table
- RP-04 — Monitoring Well Cluster Identifier
- Screen Interval

CRBG = COLUMBIA RIVER BASALT GROUP

Notes:

Stratigraphy between depicted borings is interpreted from additional borings not shown on this cross section.
Stratigraphy at borings shown on cross section may incorporate observations from multiple borings at a single well cluster.

0' 125' 250' 375'

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Portland, OR. U.S.A. 97224

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VERTICAL DATUM: City of Portland
PROJECT NO: 061M107030.0202.001

TITLE:
FIGURE 6-L
GEOLOGIC CROSS SECTION G-G'

REPORT:
RI / SCE REPORT
RP - PORTLAND SITE

P:\10703\0100 RI-FS-ROD\0104 RI Report\Draft RI\Figures\dwg\Figure 6-L Geologic Cross Section G-G'.dwg — Layout — Oct. 27, 2010 11:41am — brian.johnson

NORTH WEST

H

SILTRONIC PROPERTY | BNSF PROPERTY | ESCO PROPERTY | GOULD PROPERTY | SCHNITZER PROPERTY

H'

SOUTH EAST

RP-21 | MW-03 | RP-18 | W-11 | RP-19 | W-03 | W-04 | W-16

BNSF RAILROAD

Artificial Fill

Fine-Grained Alluvium

Alluvial-Colluvial Gravel

CRBG Undifferentiated

ELEVATION (Feet)

40 | 20 | 0 | -20 | -40 | -60 | -80 | -100

LEGEND

- BNSF — Property Boundaries (Approximate)
- OHWL — Ordinary High Water Line (16 feet, City of Portland Datum)
- Inferred Lithologic Contact
- Approximate Location of Site-Specific Fault
- Water Table
- RP-19 — Monitoring Well Cluster Identifier
- Screen Interval

CRBG = COLUMBIA RIVER BASALT GROUP

Notes:

Stratigraphy between depicted borings is interpreted from additional borings not shown on this cross section.
Stratigraphy at borings shown on cross section may incorporate observations from multiple borings at a single well cluster.

0' 125' 250' 375'

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VERTICAL DATUM: City of Portland
PROJECT NO: 061M107030.0202.001

TITLE:
FIGURE 6-M
GEOLOGIC CROSS SECTION H-H'

REPORT:
RI / SCE REPORT
RP - PORTLAND SITE

P:\10703\0100 RI-FS-ROD\0104 RI Report\Draft RI\Figures\dwg\Figure 6-M Geologic Cross Section H-H'.dwg — Layout — Oct. 27, 2010 11:41am — brian.johnson

NORTHWEST

NORTHWEST NATURAL/GASCO PROPERTY

SILTRONIC PROPERTY

SOUTH EAST

WILLAMETTE RIVER

(OHWL)

GS-01 GS-02 GS-03 GS-04 GS-05 GS-06 GS-07 GS-08 GS-09 WS-14 WS-11 WS-12 SIL-01 SIL-02 RP-11 SIL-03 RP-07

ELEVATION (Feet)

40 20 0 -20 -40 -60 -80 -100 -120 -140 -160 -180 -200

Artificial Fill

Fine-Grained Alluvium

Fine-Grained Alluvium

Alluvial-Colluvial Gravel

CRBG Undifferentiated

CRBG Undifferentiated

Troutdale Formation

CRBG Undifferentiated

Troutdale Formation

LEGEND

- BNSF — Property Boundaries (Approximate)
- OHWL — Ordinary High Water Line (16 feet, City of Portland Datum)
- Inferred Lithologic Contact
- Water Table
- Fault Showing Relative Direction of Movement
- RP-11 — Monitoring Well Cluster Identifier
- Screen Interval

CRBG = COLUMBIA RIVER BASALT GROUP

Notes:

Stratigraphy between depicted borings is interpreted from additional borings not shown on this cross section.
Stratigraphy at borings shown on cross section may incorporate observations from multiple borings at a single well cluster.

0' 125' 250' 375'

amec

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Portland, OR. U.S.A. 97224

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DATE DRAWN: OCTOBER 2010

VERTICAL DATUM: City of Portland

PROJECT NO: 061M107030.0202.001

TITLE:

FIGURE 6-N
GEOLOGIC CROSS SECTION I-I'

REPORT:

RI / SCE REPORT
RP - PORTLAND SITE

P:\10703\0100 RI-FS-ROD\0104 RI Report\Draft RI\Figures\dwg\Figure 6-N and 6-O Geologic Cross Section I-I''.dwg — North Section — Oct. 27, 2010 11:41am — brian.johnson

NORTHWEST

SOUTHEAST

SILTRONIC PROPERTY

BNSF PROPERTY

ARKEMA LOT 1

ARKEMA LOT 2

ARKEMA LOT 3

ARKEMA LOT 4

I'

I''

RP-24 SIL-04 RP-01 W-19 RP-02 ARK-04 ARK-07 MWA-14i MWA-21b MWA-10i MWA-18 MWA-32i MWA-29

40 20 0 -20 -40 -60 -80 -100 -120 -140 -160 -180

Artificial Fill

Fine-Grained Alluvium

Fine-Grained Alluvium

CRBG Undifferentiated

Alluvial-Colluvial Gravel

CRBG Winter Water Member

CRBG Sentinel Bluffs Member

CRBG Sentinel Bluffs Member

CRBG Sentinel Bluffs Member

CRBG Winter Water Member

LEGEND

- BNSF — Property Boundaries (Approximate)
- OHWL — Ordinary High Water Line (16 feet, City of Portland Datum)
- Inferred Lithologic Contact
- Water Table
- RP-17 — Monitoring Well Cluster Identifier
- Screen Interval

CRBG = COLUMBIA RIVER BASALT GROUP

Notes:

Stratigraphy between depicted borings is interpreted from additional borings not shown on this cross section.
Stratigraphy at borings shown on cross section may incorporate observations from multiple borings at a single well cluster.

0' 125' 250' 375'

amec

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7376 S.W. Durham Road
Portland, OR. U.S.A. 97224

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DATE DRAWN: OCTOBER 2010

VERTICAL DATUM: City of Portland

PROJECT NO: 061M107030.0202.001

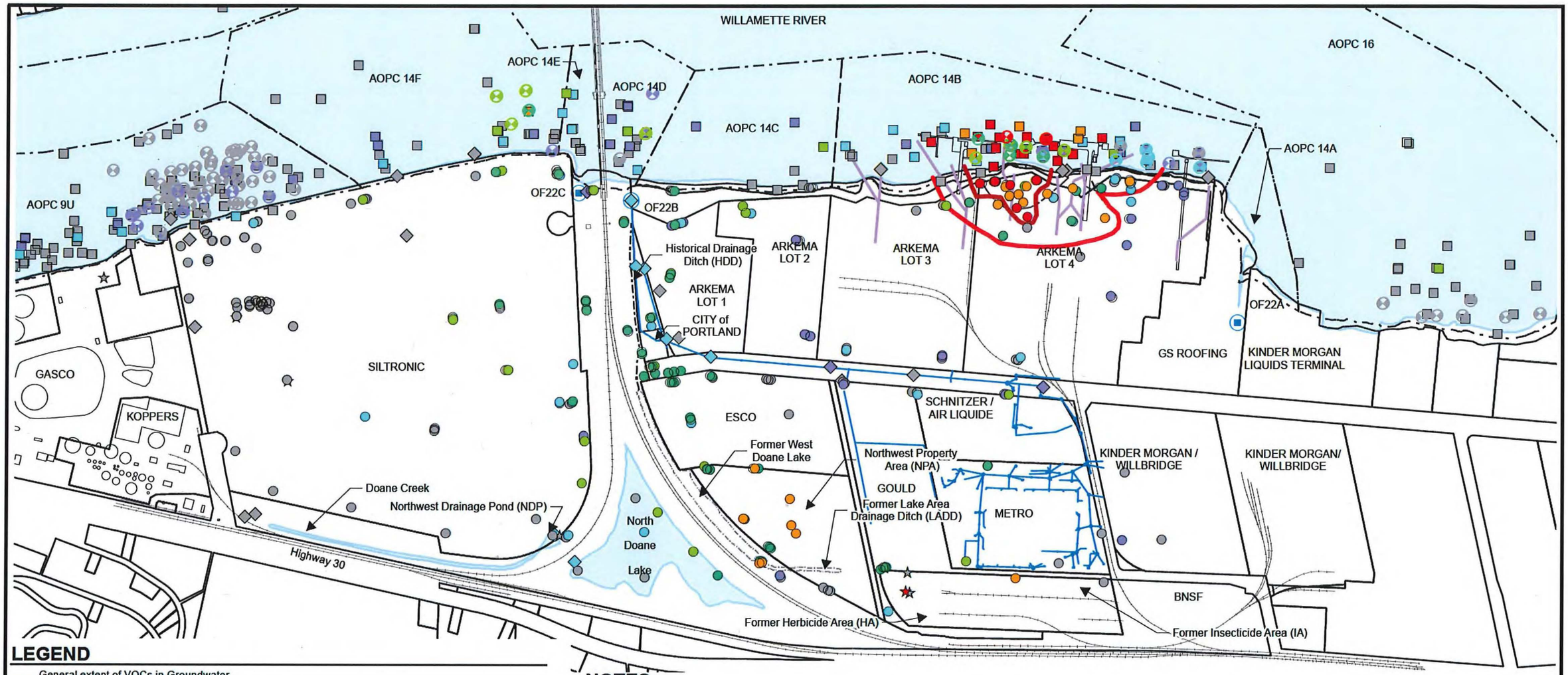
TITLE:

FIGURE 6-O
GEOLOGIC CROSS SECTION I'-I''

REPORT:

RI / SCE REPORT
RP - PORTLAND SITE

P:\10703\0100 RI-FS-ROD\0104 RI Report\Draft RI\Figures\dwg\Figure 6-N and 6-O Geologic Cross Section I-I''.dwg – South Section – Oct. 27, 2010 11:41am – brian.johnson



LEGEND

- General extent of VOCs in Groundwater Arkema Property greater than 10,000 ug/L
- General extent of VOCs in Shallow Zone Groundwater Arkema Property greater than 50 ug/L (see note 9)
- Storm line network that drains to OF-22B
- River Outfalls
- River Outfalls 22A-B-C
- LWG AOPC Boundary (June 2010)

Concentration Scale

Water (ug/L)	Sediment (ug/kg)
ND	ND
<ND - 1.0	<ND - 1.0
>1.0 - 10.0	>1.0 - 10.0
>10.0 - 50.0 (SLV)	>10.0 - 100.0
>50.0 - 1,000.0	>100.0 - 239.0 (SLV)
>1,000.0 - 10,000.0	>239.0 - 10,000.0
>10,000.0	>1,0000.0

Sample Type Symbol
(See Concentration Scale for Color Coding)

- NAPL Sample Locations
- River Sediment Sample Locations SLV = 239 ug/kg
- Groundwater Sample Locations SLV = 50 ug/L
- Transition Zone Water Sample Locations
- Stormwater Sample Location

NOTES

1.) Non-detect (ND) values include all reported NDs regardless of the detection limit. This includes samples with elevated detection limits resulting from analytical interference such as high concentrations of other compounds. Therefore, ND values do not necessarily indicate the absence of a constituent at a given location. This is especially true for sediment samples along some sections of the Riverbank affected by non-aqueous phase liquid and/or in close proximity to highly-impacted source areas.
2.) Concentrations shown reflect the highest concentration at any depth for that sample location.
3.) This figure presents the following data: the most recent annual maximum value between 2007 and 2010 for groundwater monitoring wells sampled by Rhone-Poulenc; NDL groundwater data collected by Rhone-Poulenc in 2003, and the most recent annual maximum value between 2006 to 2010 for groundwater monitoring wells sampled by Arkema and Siltronic.
4.) AOPC 14 has been divided into AOPC 14A through AOPC 14F by Golder Associates for the purpose of data evaluation.
5.) Screening Level Values (SLV) are from the sources indicated on Table 8-3.
6.) The extent of groundwater detections are not necessarily attributable to historical Rhone-Poulenc operations and are the result of multiple sources. Areas of COI detections attributable to 3rd party sources may be included on this figure. Appendix L of the Rhone Poulenc Draft RI/SCE report (AMEC, 2010) documents known and potential 3rd party sources.
7.) The extents of impacts above SLVs shown are approximate and should not be interpreted as exact indicators of groundwater quality at locations between wells. Historical data not presented on this figure may have been used to illustrate the impact extent.
8.) The illustrated extent of detections above SLVs in groundwater are based on wells that are located along a groundwater flow pathway (i.e. wells with isolated results above the SLV are excluded).
9.) Extent of VOC impacts on Arkema property based on the extent of chlorobenzene depicted on Figures 6-1 and 6-2 of the Upland Investigation Report Lots 3 & 4 and Tract A - Revision 1, prepared by ERM dated December 2005. Arkema has not determined the extent of deep groundwater VOC impacts.

N

0 245 490

1 inch equals 500 feet

Golder Associates
Manchester, New Hampshire

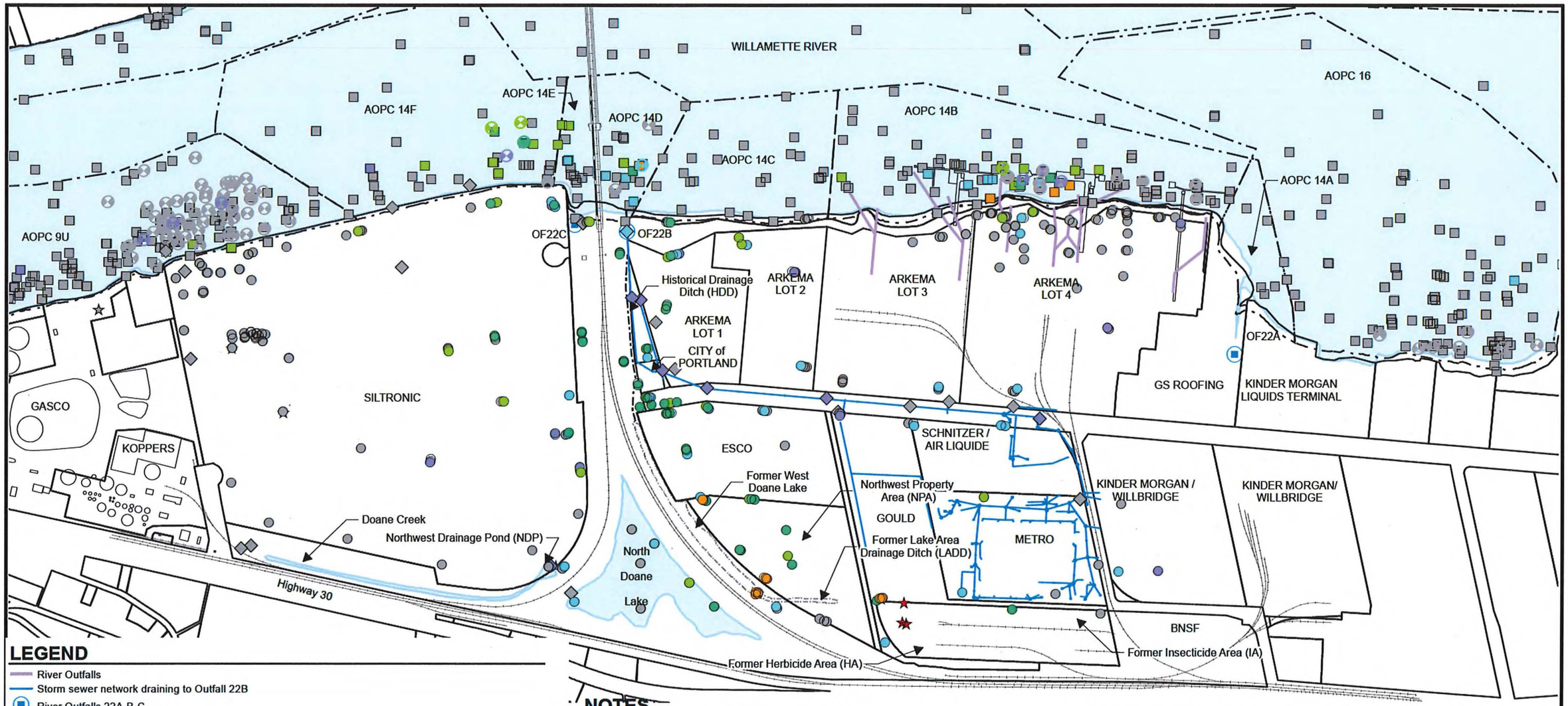
Map Projection: North American Datum (NAD) 1983 Oregon State Plane North in feet

DATE	11/6/2012
DESIGN	RWB
GIS	CDS
CHECKED	.
REVIEW	.

FIGURE S8.3-7
Chlorobenzene in Groundwater, NAPL, Stormwater/Non-stormwaterTransition Zone and River Sediments

Draft Supplemental Section 8
RI / SCE Report
RP - Portland Site

CB_GW-Final



LEGEND

- River Outfalls
- Storm sewer network draining to Outfall 22B
- River Outfalls 22A-B-C
- LWG AOPC Boundary (June 2010)

Concentration Scale

Water (ug/L)	Sediment (ug/kg)
ND	ND
<ND - 0.43 (SLV)	<ND - 1.0
>1.0 - 10.0	>1.0 - 10.0
>10.0 - 100.0	>10.0 - 100.0
>100.0 - 1,000.0	>100.0 - 300.0 (SLV)
>1,000.0 - 10,000.0	>300.0 - 10,000.0
>10,000.0	>10,000.0

Sample Type Symbol

(See Concentration Scale for Color Coding)

- NAPL Sample Locations
- River Sediment Sample Locations SLV = 300 ug/kg
- Groundwater Sample Locations SLV = 0.43 ug/L
- Transition Zone Water Sample Locations
- Stormwater Sample Location

NOTES

1.) Non-detect (ND) values include all reported NDs regardless of the detection limit. This includes samples with elevated detection limits resulting from analytical interference such as high concentrations of other compounds. Therefore, ND values do not necessarily indicate the absence of a constituent at a given location. This is especially true for sediment samples along some sections of the Riverbank affected by non-aqueous phase liquid and/or in close proximity to highly-impacted source areas.
2.) Concentrations shown reflect the highest concentration at any depth for that sample location.
3.) This figure presents the following data: the most recent annual maximum value between 2007 and 2010 for groundwater monitoring wells sampled by Rhone-Poulenc; NDL groundwater data collected by Rhone-Poulenc in 2003, and the most recent annual maximum value between 2006 to 2010 for groundwater monitoring wells sampled by Arkema and Siltronic.
4.) AOPC 14 has been divided into AOPC 14A through AOPC 14F by Golder Associates for the purpose of data evaluation.
5.) Screening Level Values (SLV) are from the sources indicated on Table 8-3.
6.) The groundwater detections presented are not necessarily attributable to historical Rhone-Poulenc operations and are the result of multiple sources. Areas of COI detections attributable to 3rd party sources may be included on this figure. Appendix L of the Rhone Poulenc Draft RI/SCE report (AMEC, 2010) documents known and potential 3rd party sources.

N

0 250 500

1 inch equals 500 feet

Golder Associates
Manchester, New Hampshire

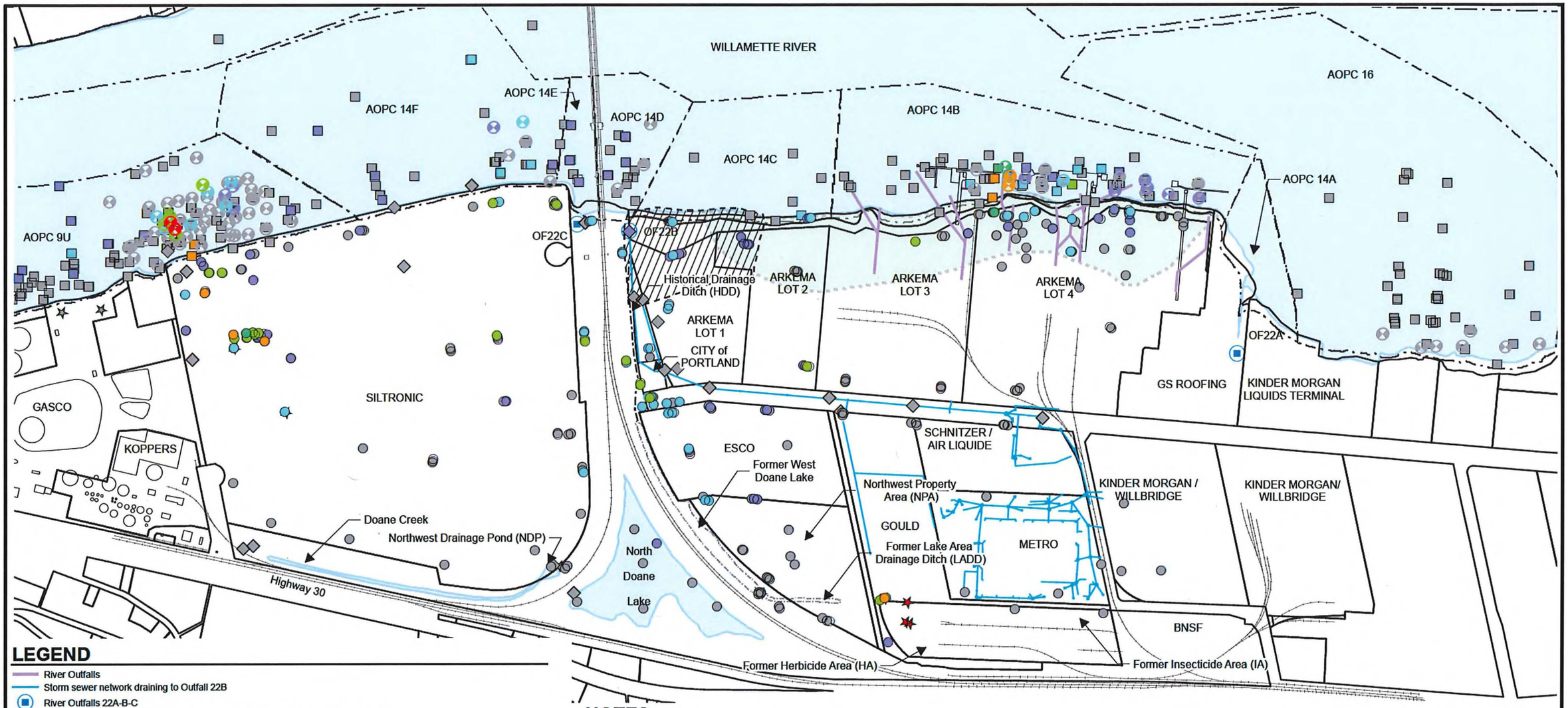
Map Projection: North American Datum (NAD) 1983 Oregon State Plane North in feet

DATE	11/5/2012
DESIGN	RWB
GIS	CDS
CHECKED	
REVIEW	

FIGURE S8.3-9
1,4-Dichlorobenzene in Groundwater, NAPL, Stormwater/Non-stormwater, Transition Zone and River Sediments

Draft Supplemental Section 8
RI / SCE Report
RP - Portland Site

14DCB_GW-Final



LEGEND

- River Outfalls
- Storm sewer network draining to Outfall 22B
- River Outfalls 22A-B-C
- Approximate minimum extent of ARKEMA related PCE or TCE groundwater impacts.
- Potential area of overlapping constituents beneath Arkema property

Concentration Scale

Water (ug/L)	Sediment (ug/kg)
ND	ND
<ND - 2.0 (SLV)	<ND - 1.0
>2.0 - 10.0	>1.0 -10.0
>10.0 - 100.0	>10.0 - 100.0
>100.0 - 1,000.0	>100.0 - 140.0 (SLV)
>1,000.0 - 10,000.0	>140.0 - 10,000.0
>10,000.0	>10,000.0

Sample Type Symbol
(See Concentration Scale for Color Coding)

- NAPL Sample Locations
- River Sediment Sample Locations SLV = 140.0 ug/kg
- Groundwater Sample Locations SLV = 2.0 ug/L
- Transition Zone Water Sample Locations
- Stormwater Sample Location

NOTES

1.) Non-detect (ND) values include all reported NDs regardless of the detection limit. This includes samples with elevated detection limits resulting from analytical interference such as high concentrations of other compounds. Therefore, ND values do not necessarily indicate the absence of a constituent at a given location. This is especially true for sediment samples along some sections of the Riverbank affected by non-aqueous phase liquid and/or in close proximity to highly-impacted source areas.
2.) Concentrations shown reflect the highest concentration at any depth for that sample location.
3.) This figure presents the following data: the most recent annual maximum value between 2007 and 2010 for groundwater monitoring wells sampled by Rhone-Poulenc; NDL groundwater data collected by Rhone-Poulenc in 2003, and the most recent annual maximum value between 2006 to 2010 for groundwater monitoring wells sampled by Arkema and Siltronic
4.) AOPC 14 has been divided into AOPC 14A through AOPC 14F by Golder Associates for the purpose of data evaluation.
5.) Screening Level Values (SLV) are from the sources indicated on Table 8-3.
6.) The groundwater detections presented are not necessarily attributable to historical Rhone-Poulenc operations and are the result of multiple sources. Areas of COI detections attributable to 3rd party sources may be included on this figure. Appendix L of the Rhone Poulenc Draft RI/SCE report (AMEC, 2010) documents known and potential 3rd party sources.

N

0 250 500

1 inch equals 500 feet

Golder Associates
Manchester, New Hampshire

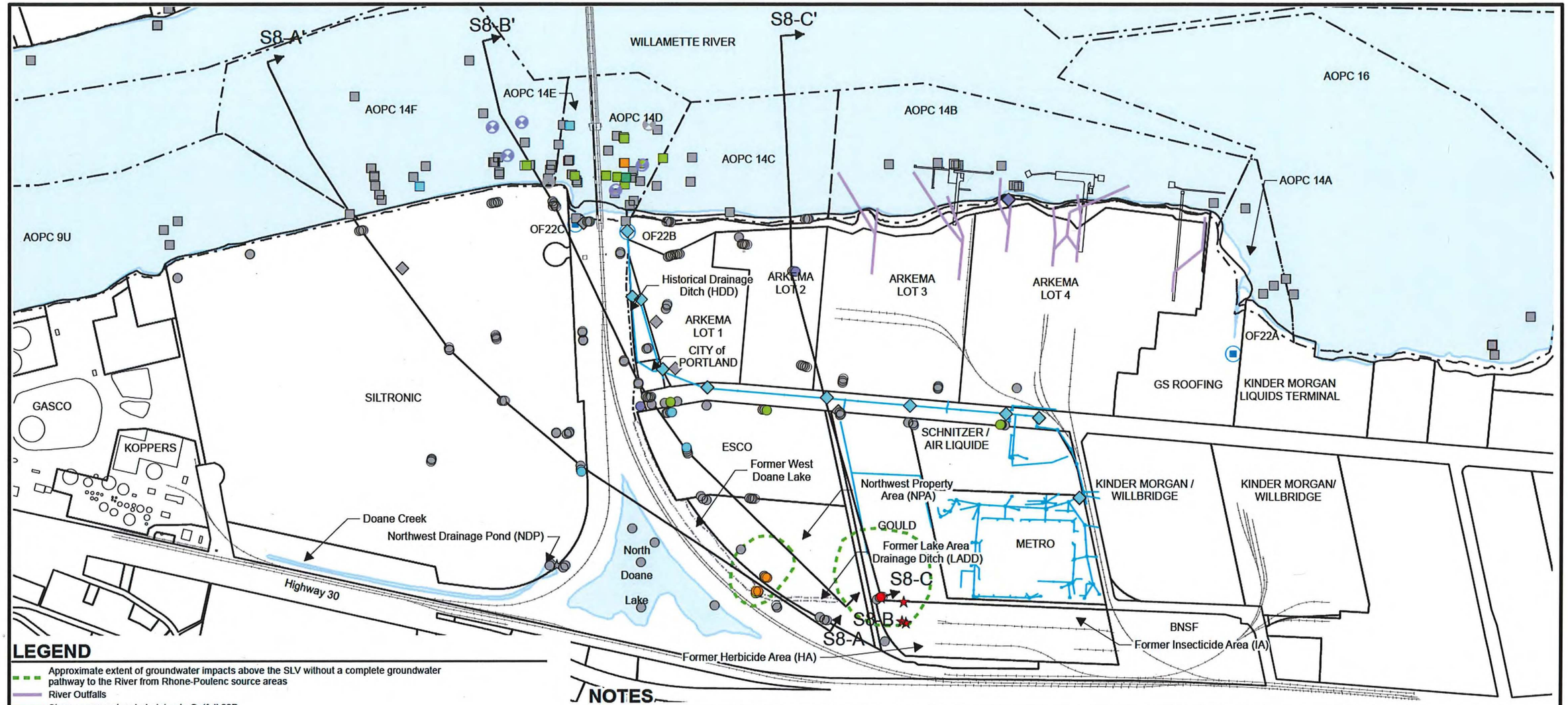
Map Projection: North American Datum (NAD) 1983 Oregon State Plane North in feet

DATE	11/5/2012
DESIGN	RWB
GIS	CDS
CHECKED	-
REVIEW	-

FIGURE S8.3-11
Trichloroethene in Groundwater, NAPL, Stormwater/Non-stormwater, Transition Zone and River Sediments

Draft Supplemental Section 8
RI / SCE Report
RP - Portland Site

TCE_GW-Fina



LEGEND

- Approximate extent of groundwater impacts above the SLV without a complete groundwater pathway to the River from Rhone-Poulenc source areas
- River Outfalls
- Storm sewer network draining to Outfall 22B
- River Outfalls 22A-B-C
- LWG AOPC Boundary (June 2010)
- Cross Section Location

Concentration Scale

Water (ug/L)	Sediment (ug/kg)
ND	ND
<ND - 1.0	<ND - 1.0
>1.0 - 4.0 (SLV)	>1.0 - 9.0 (SLV)
>4.0 - 100.0	>9.0 - 100.0
>100.0 - 1,000.0	>100.0 - 1,000.0
>1,000.0 - 10,000.0	>1,000.0 - 10,000.0
>10,000.0	>10,000.0

Sample Type Symbol
(See Concentration Scale for Color Coding)

- NAPL Sample Locations
- River Sediment Sample Locations SLV = 9.0 ug/kg
- Groundwater Sample Locations SLV = 4.0 ug/L
- Transition Zone Water Sample Locations
- Stormwater Sample Location

NOTES

1.) Non-detect (ND) values include all reported NDs regardless of the detection limit. This includes samples with elevated detection limits resulting from analytical interference such as high concentrations of other compounds. Therefore, ND values do not necessarily indicate the absence of a constituent at a given location. This is especially true for sediment samples along some sections of the Riverbank affected by non-aqueous phase liquid and/or in close proximity to highly-impacted source areas.
2.) Concentrations shown reflect the highest concentration at any depth for that sample location.
3.) This figure presents the following data: the most recent annual maximum value between 2007 and 2010 for groundwater monitoring wells sampled by Rhone-Poulenc; NDL groundwater data collected by Rhone-Poulenc in 2003, and the most recent annual maximum value between 2006 to 2010 for groundwater monitoring wells sampled by Arkema and Siltronic.
4.) AOPC 14 has been divided into AOPC 14A through AOPC 14F by Golder Associates for the purpose of data evaluation.
5.) Screening Level Values (SLV) are from the sources indicated on Table 8-3.
6.) The extent of groundwater detections are not necessarily attributable to historical Rhone-Poulenc operations and are the result of multiple sources. Areas of COI detections attributable to 3rd party sources may be included on this figure. Appendix L of the Rhone Poulenc Draft RI/SCE report (AMEC, 2010) documents known and potential 3rd party sources.
7.) The extents of impacts above SLVs shown are approximate and should not be interpreted as exact indicators of groundwater quality at locations between wells. Historical data not presented on this figure may have been used to illustrate the impact extent.
8.) The illustrated extent of detections above SLVs in groundwater are based on wells that are located along a groundwater flow pathway (i.e. wells with isolated results above the SLV are excluded).

N

0 250 500

1 inch equals 500 feet

Golder Associates
Manchester, New Hampshire

Map Projection: North American Datum (NAD) 1983 Oregon State Plane North in feet

DATE	11/6/2012
DESIGN	RWB
GIS	CDS
CHECKED	
REVIEW	

FIGURE S8.4-3
2,4-D in Groundwater, NAPL, Stormwater/Non-Stormwater,Transition Zone and River Sediments

Draft Supplemental Section 8
RI / SCE Report
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24D_GW-Final

S8-A'
S8-B'
S8-C'
WILLAMETTE RIVER
AOPC 16
AOPC 14E
AOPC 14F
AOPC 14D
AOPC 14B
AOPC 14C
AOPC 14A
AOPC 9U
OF22C
OF22B
Historical Drainage Ditch (HDD)
ARKEMA LOT 2
ARKEMA LOT 3
ARKEMA LOT 4
ARKEMA LOT 1
CITY of PORTLAND
OF22A
GS ROOFING
KINDER MORGAN LIQUIDS TERMINAL
GASCO
SILTRONIC
KOPPERS
ESCO
Former West Doane Lake
SCHNITZER / AIR LIQUIDE
Northwest Property Area (NPA)
KINDER MORGAN / WILLBRIDGE
KINDER MORGAN/ WILLBRIDGE
GOULD
METRO
Former Lake Area Drainage Ditch (LADD)
Doane Creek
Northwest Drainage Pond (NDP)
North Doane Lake
Highway 30
S8-C
S8-B
S8-A
BNSF
Former Herbicide Area (HA)
Former Insecticide Area (IA)

LEGEND

- Approximate extent of groundwater impacts above the SLV with a potentially complete groundwater pathway to the River from Rhone-Poulenc Source Areas
- Approximate extent of groundwater impacts above the SLV without a complete groundwater pathway to the River from Rhone-Poulenc Source Areas
- Storm sewer network draining to Outfall 22B
- River Outfalls
- River Outfalls 22A-B-C
- Approximate extent of groundwater impacts with a complete groundwater pathway to the River from Rhone-Poulenc source areas based on detections in River sediments and/or TZW samples
- Cross Section Location

Concentration Scale

Water (ug/L)	Sediment (ug/kg)
ND	ND
<ND - 1.0	<ND - 1.0
>1.0 - 5.0 (SLV)	>1.0 - 20.0 (SLV)
>5.0 - 100.0	>20.0 - 100.0
>100.0 - 1,000.0	>100.0 - 1,000.0
>1,000.0 - 10,000.0	>1,000.0 - 10,000.0
>10,000.0	>10,000.0

Sample Type Symbol
(See Concentration Scale for Color Coding)

- NAPL Sample Locations
- River Sediment Sample Locations SLV = 20.0 ug/kg
- Groundwater Sample Locations SLV = 5.0 ug/L
- Transition Zone Water Sample Locations
- Stormwater Sample Location

NOTES

1.) Non-detect (ND) values include all reported NDs regardless of the detection limit. This includes samples with elevated detection limits resulting from analytical interference such as high concentrations of other compounds. Therefore, ND values do not necessarily indicate the absence of a constituent at a given location. This is especially true for sediment samples along some sections of the Riverbank affected by non-aqueous phase liquid and/or in close proximity to highly-impacted source areas.
2.) Concentrations shown reflect the highest concentra ion at any depth for that sample loca ion.
3.) This figure presents the following data: the most recent annual maximum value between 2007 and 2010 for groundwater monitoring wells sampled by Rhone-Poulenc; NDL groundwater data collected by Rhone-Poulenc in 2003, and the most recent annual maximum value between 2006 to 2010 for groundwater monitoring wells sampled by Arkema and Siltronic.
4.) AOPC 14 has been divided into AOPC 14A through AOPC 14F by Golder Associates for the purpose of data evaluation.
5.) Screening Level Values (SLV) are from the sources indicated on Table 8-3.
6.) The extent of groundwater detections are not necessarily attributable to historical Rhone-Poulenc operations and are the result of multiple sources. Areas of COI detections attributable to 3rd party sources may be included on this figure. Appendix L of he Rhone Poulenc Draft RI/SCE report (AMEC, 2010) documents known and potential 3rd party sources.
7.) The extents of impacts above SLVs shown are approximate and should not be interpreted as exact indicators of groundwater quality at locations between wells. Historical data not presented on this figure may have been used to illustrate the impact extent.
8.) The illustrated extent of detections above SLVs in groundwater are based on wells that are located along a groundwater flow pathway (i.e. wells with isolated results above the SLV are excluded).

N

0 250 500

1 inch equals 500 feet

Golder Associates
Manchester, New Hampshire

Map Projection: North American Datum (NAD) 1983 Oregon State Plane North in feet

DATE	11/6/2012
DESIGN	RWB
GIS	CDS
CHECKED	.
REVIEW	.

FIGURE S8.4-4
Silvex in Groundwater, NAPL
Stormwater / Non-stormwater, Transition Zone and River Sediments

Draft Supplemental Section 8
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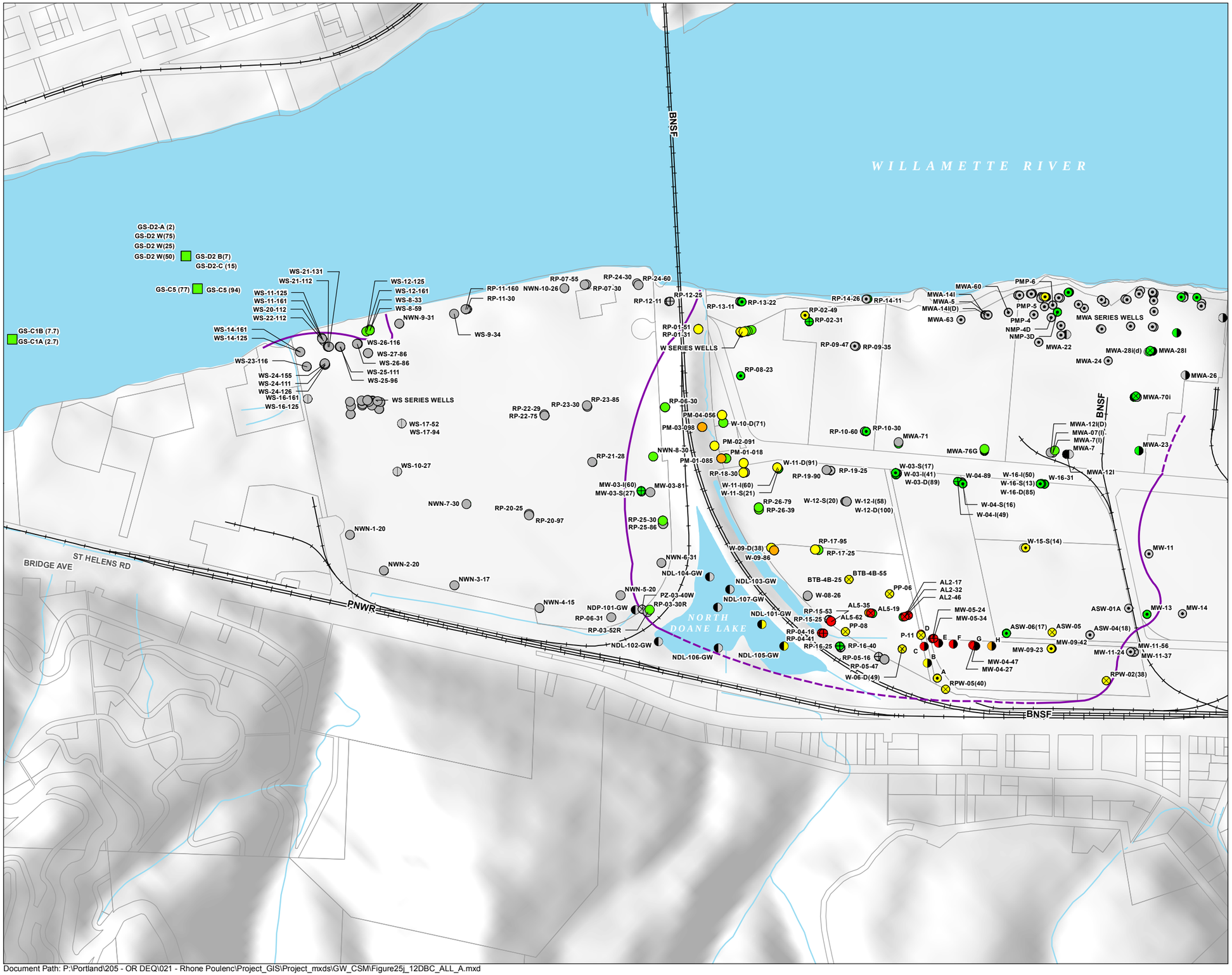
RP - Portland Site

Silvex_GW-Final

FIGURE 25j

1,2-Dichlorobenzene Results in Groundwater, within Fill and Fine-Grained Alluvium - 2002, 2003, 2006 to 2010

Rhone Poulenc



LEGEND

Sample Year

- 2010
- 2009
- 2008
- 2007
- 2006
- 2003
- 2002
- Reconnaissance

1,2-Dichlorobenzene Results (ug/L)

- < 14[X]
- > 14 - 700[XX]
- > 700 - 1,400[XXX]
- > 1,400
- Non Detect
- Extent of 1,2-Dichlorobenzene (dashed where inferred)

All Other Features

- Tax Lot
- Railroad
- Waterbody
- Watercourse

NOTES:

ug/L: microgram per liter.
The concentration for the most recent year sampled is shown. Within that year, the highest detected concentration is shown.
[X] 14 ug/L is the screening level value for groundwater presented in the SS8 report.
[XX] 700 ug/L is the approximately 0.5% of the pure phase solubility of 1,2-Dichlorobenzene in water.
[XXX] 1,400 ug/L is the approximately 1% of the pure phase solubility of 1,2-Dichlorobenzene in water.

N

0 275 550 825

Feet

MAP NOTES:

Date: March 17, 2015
Data Sources: Rhone Poulenc, METRO
Reference: AMEC Rhone Poulenc Access Database for Groundwater Analytical Data.

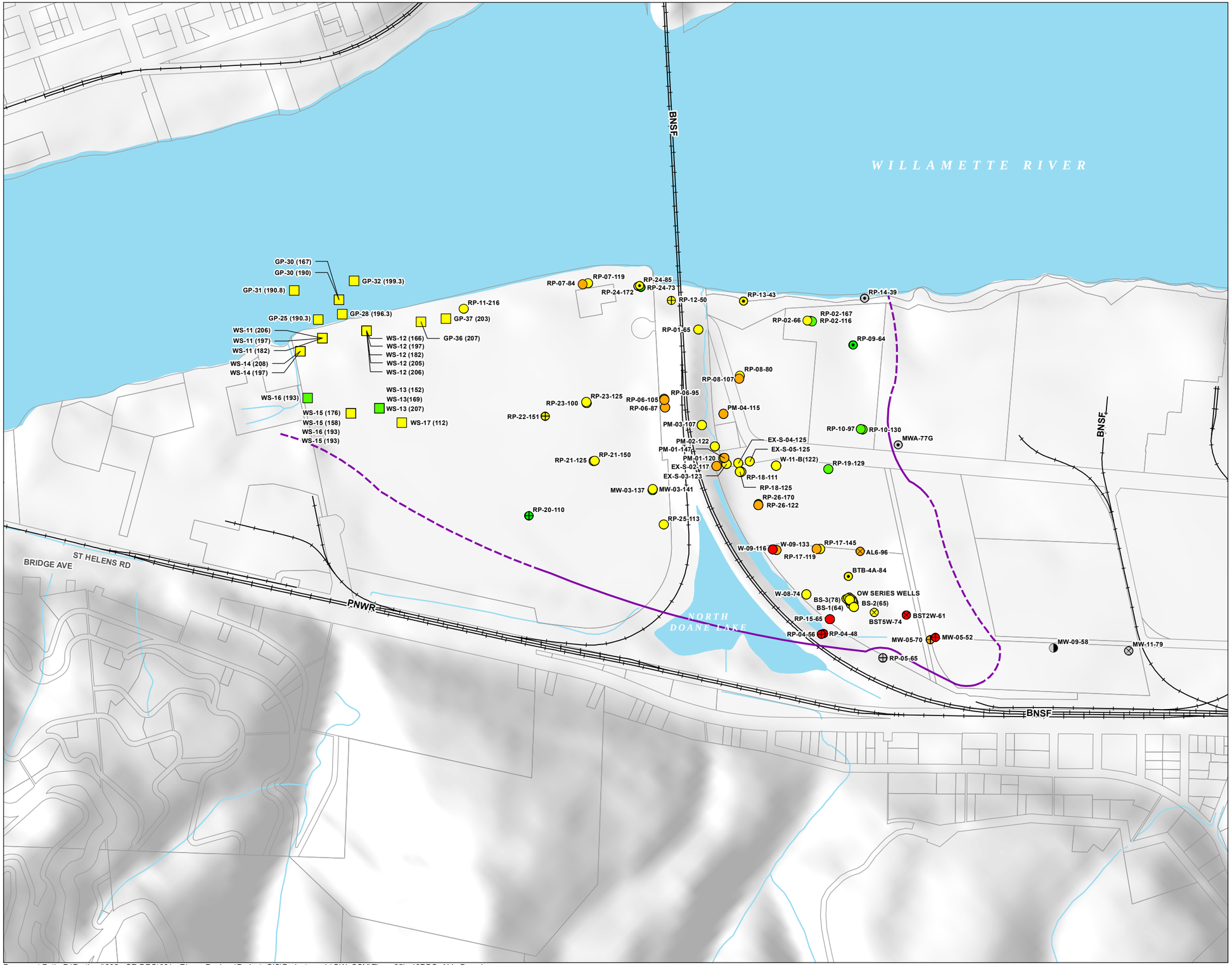
GSI Water Solutions, Inc.

Document Path: P:\Portland\205 - OR DEQ\021 - Rhone Poulenc\Project_GIS\Project_mxds\GW_CSM\Figure25j_12DBC_ALL_A.mxd

FIGURE 25k

1,2-Dichlorobenzene Results in Groundwater, within Gravel and Basalt - 2002, 2003, 2006 to 2010

Rhone Poulenc



LEGEND

Sample Year

- 2010
- 2009
- 2008
- 2007
- 2006
- 2003
- 2002
- Reconnaissance

1,2-Dichlorobenzene Results (ug/L)

- < 14[X]
- > 14 - 700[XX]
- > 700 - 1,400[XXX]
- > 1,400
- Non Detect

All Other Features

- Tax Lot
- Railroad
- Waterbody
- Watercourse

NOTES:

ug/L: microgram per liter.
The concentration for the most recent year sampled is shown. Within that year, the highest detected concentration is shown.
[X] 14 ug/L is the screening level value for groundwater presented in the SS8 report.
[XX] 700 ug/L is the approximately 0.5% of the pure phase solubility of 1,2-Dichlorobenzene in water.
[XXX] 1,400 ug/L is the approximately 1% of the pure phase solubility of 1,2-Dichlorobenzene in water.

N

0 275 550 825
Feet

MAP NOTES:

Date: March 17, 2015
Data Sources: Rhone Poulenc, METRO
Reference: AMEC Rhone Poulenc Access Database for Groundwater Analytical Data.

GSI Water Solutions, Inc.

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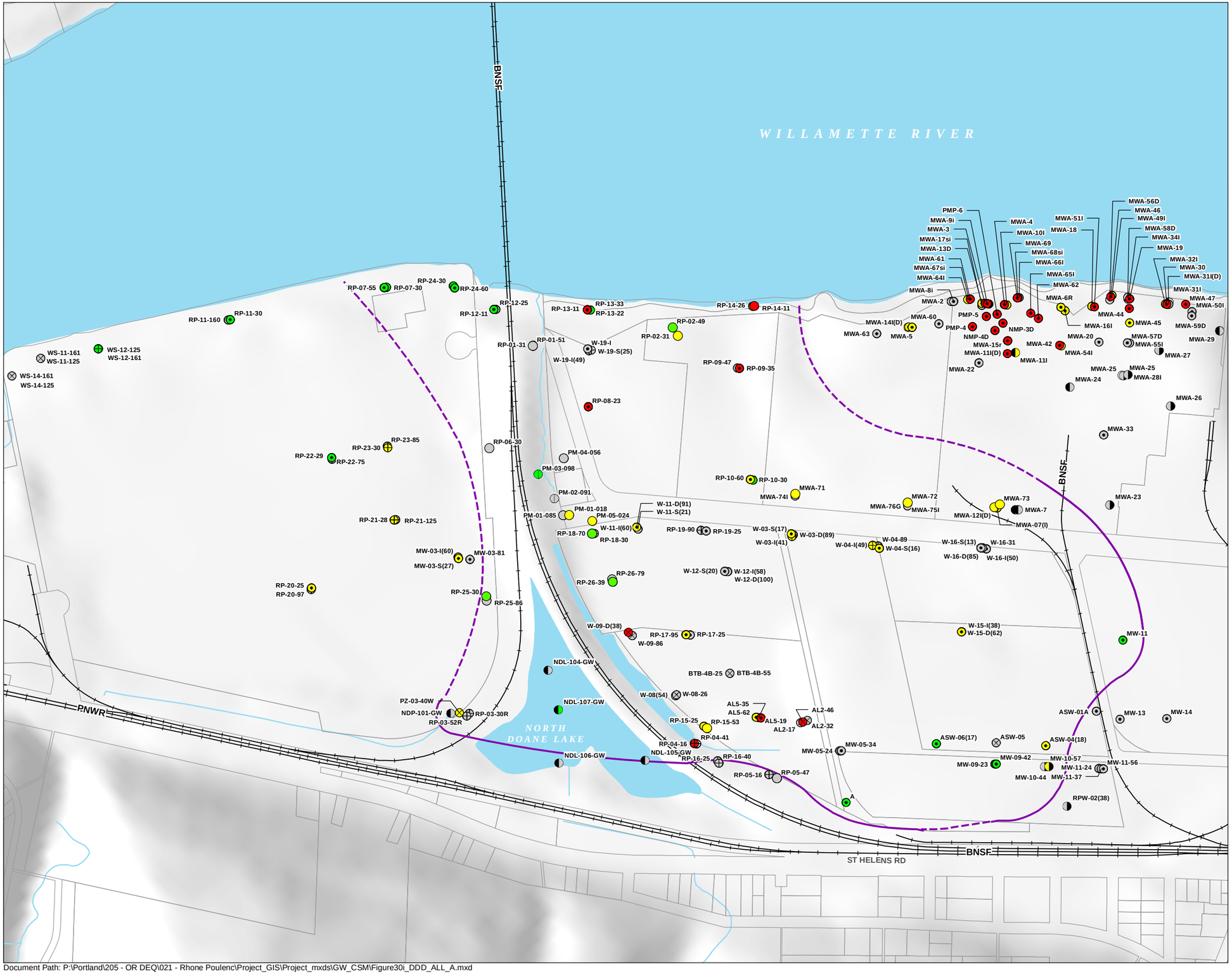
FIGURE 30i

4,4-DDD Results in Groundwater, within Fill and Fine-Grained Alluvium - 2002, 2003, 2006 to 2010

Rhone Poulenc



LEGEND

- 2010
- 2009
- 2008
- 2007
- 2006
- 2003
- 2002

DDD Results (ng/L)

- < 1.0[X]
- > 1.0 - 100[XX]
- > 100
- Non Detect
- Extent of DDD (dashed where inferred)

All Other Features

- Tax Lot
- Railroad
- Waterbody
- Watercourse

NOTES:

ng/L: nanogram per liter.
The concentration for the most recent year sampled is shown. Within that year, the highest detected concentration is shown.
[X] 1.0 ng/L is the screening level value for groundwater presented in the SS8 report.
[XX] 100 ng/L was selected for the range based on the data distribution.

N

0 210 420 630
Feet

MAP NOTES:
Date: April 6, 2015
Data Sources: Rhone Poulenc, METRO
Reference: AMEC Rhone Poulenc Access Database for Groundwater Analytical Data.

GSI Water Solutions, Inc.

Document Path: P:\Portland\205 - OR DEQ\021 - Rhone Poulenc\Project_GIS\Project_mxds\GW_CSM\Figure30i_DDD_ALL_A.mxd

FIGURE 30j

4,4-DDD Results in Groundwater,
within Gravel and Basalt
- 2002, 2003, 2006 to 2010

Rhone Poulenc

LEGEND

- 2010
- 2009
- 2008
- 2007
- 2006
- 2003
- 2002

DDD Results (ng/L)

- < 1.0[X]
- > 1.0 - 100[XX]
- > 100
- Non Detect
- Extent of DDD (dashed where inferred)

All Other Features

- Tax Lot
- Railroad
- Waterbody
- Watercourse

NOTES:

ng/L: nanogram per liter.
The concentration for the most recent year sampled is shown. Within that year, the highest detected concentration is shown.
[X] 1.0 ng/L is the screening level value for groundwater presented in the SS8 report.
[XX] 100 ng/L was selected for the range based on the data distribution.

N

0 210 420 630
Feet

MAP NOTES:
Date: March 17, 2015
Data Sources: Rhone Poulenc, METRO
Reference: AMEC Rhone Poulenc Access Database for Groundwater Analytical Data.

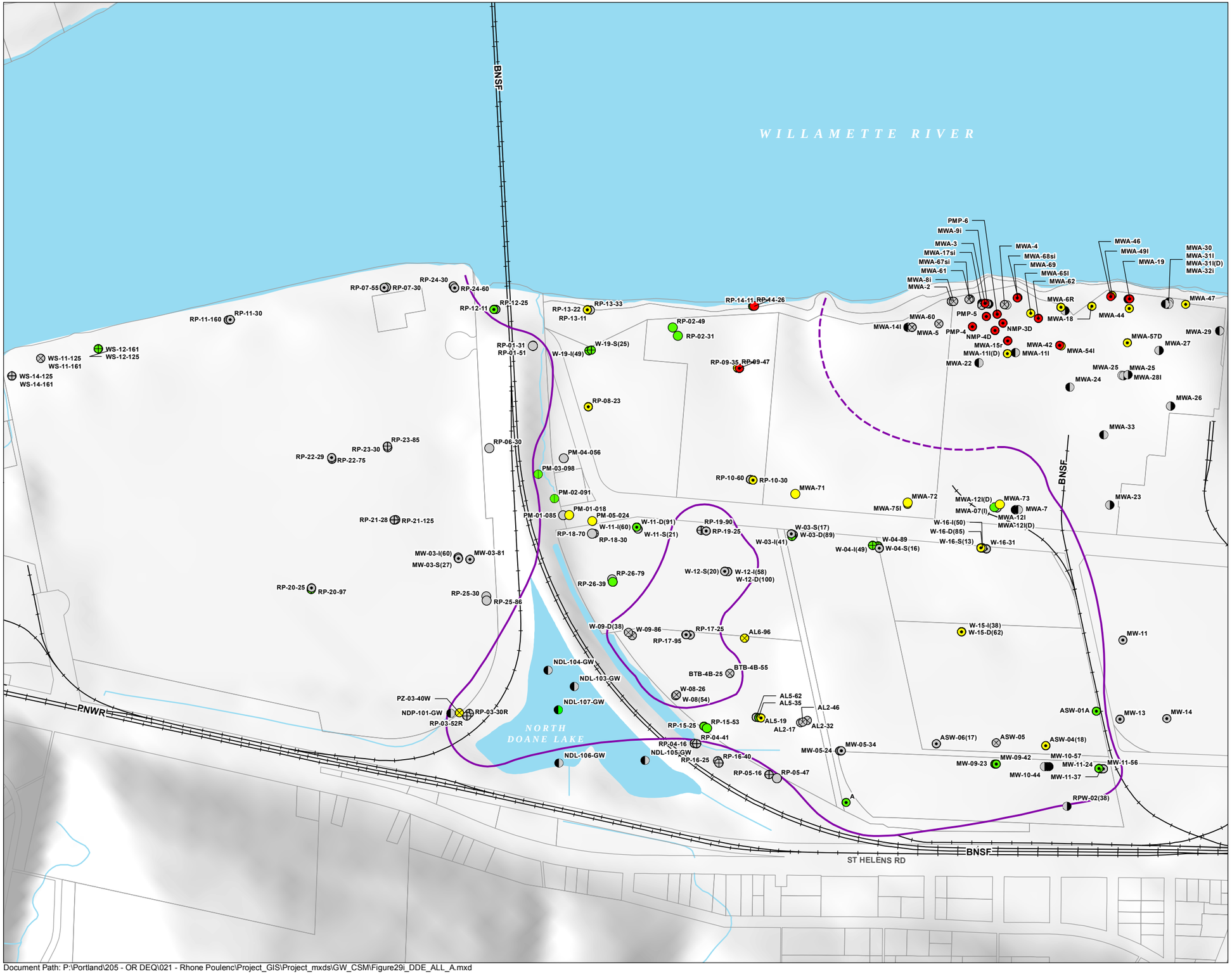
GSI Water Solutions, Inc.

Document Path: P:\Portland\205 - OR DEQ\021 - Rhone Poulenc\Project_GIS\Project_mxds\GW_CSM\Figure30j_DDD_ALL_B.mxd

FIGURE 29i

4,4-DDE Results in Groundwater, within Fill and Fine-Grained Alluvium - 2002, 2003, 2006 to 2010

Rhone Poulenc



LEGEND

- 2010
- 2009
- 2008
- 2007
- 2006
- 2003
- 2002

DDE Results (ng/L)

- < 1.0[X]
- > 1.0 - 100[XX]
- > 100
- Non Detect
- Extent of DDE (dashed where inferred)

All Other Features

- Tax Lot
- Railroad
- Waterbody
- Watercourse

NOTES:

ng/L: nanogram per liter.
The concentration for the most recent year sampled is shown. Within that year, the highest detected concentration is shown.
[X] 1.0 ng/L is the screening level value for groundwater presented in the SS8 report.
[XX] 100 ng/L was selected for the range based on the data distribution.

N

0 210 420 630
Feet

MAP NOTES:

Date: March 17, 2015
Data Sources: Rhone Poulenc, METRO
Reference: AMEC Rhone Poulenc Access Database for Groundwater Analytical Data.

GSI Water Solutions, Inc.

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FIGURE 29j

4,4-DDE Results in Groundwater,
within Gravel and Basalt
- 2002, 2003, 2006 to 2010

Rhone Poulenc

LEGEND

- 2010
- 2009
- 2008
- 2007
- 2006
- 2003
- 2002

DDE Results (ng/L)

- < 1.0[X]
- > 1.0 - 100[XX]
- > 100
- Non Detect
- Extent of DDE (dashed where inferred)

All Other Features

- Tax Lot
- Railroad
- Waterbody
- Watercourse

NOTES:

ng/L: nanogram per liter.
The concentration for the most recent year sampled is shown. Within that year, the highest detected concentration is shown.
[X] 1.0 ng/L is the screening level value for groundwater presented in the SS8 report.
[XX] 100 ng/L was selected for the range based on the data distribution.

N

0 210 420 630
Feet

MAP NOTES:

Date: March 17, 2015
Data Sources: Rhone Poulenc, METRO
Reference: AMEC Rhone Poulenc Access Database for Groundwater Analytical Data.

GSI Water Solutions, Inc.

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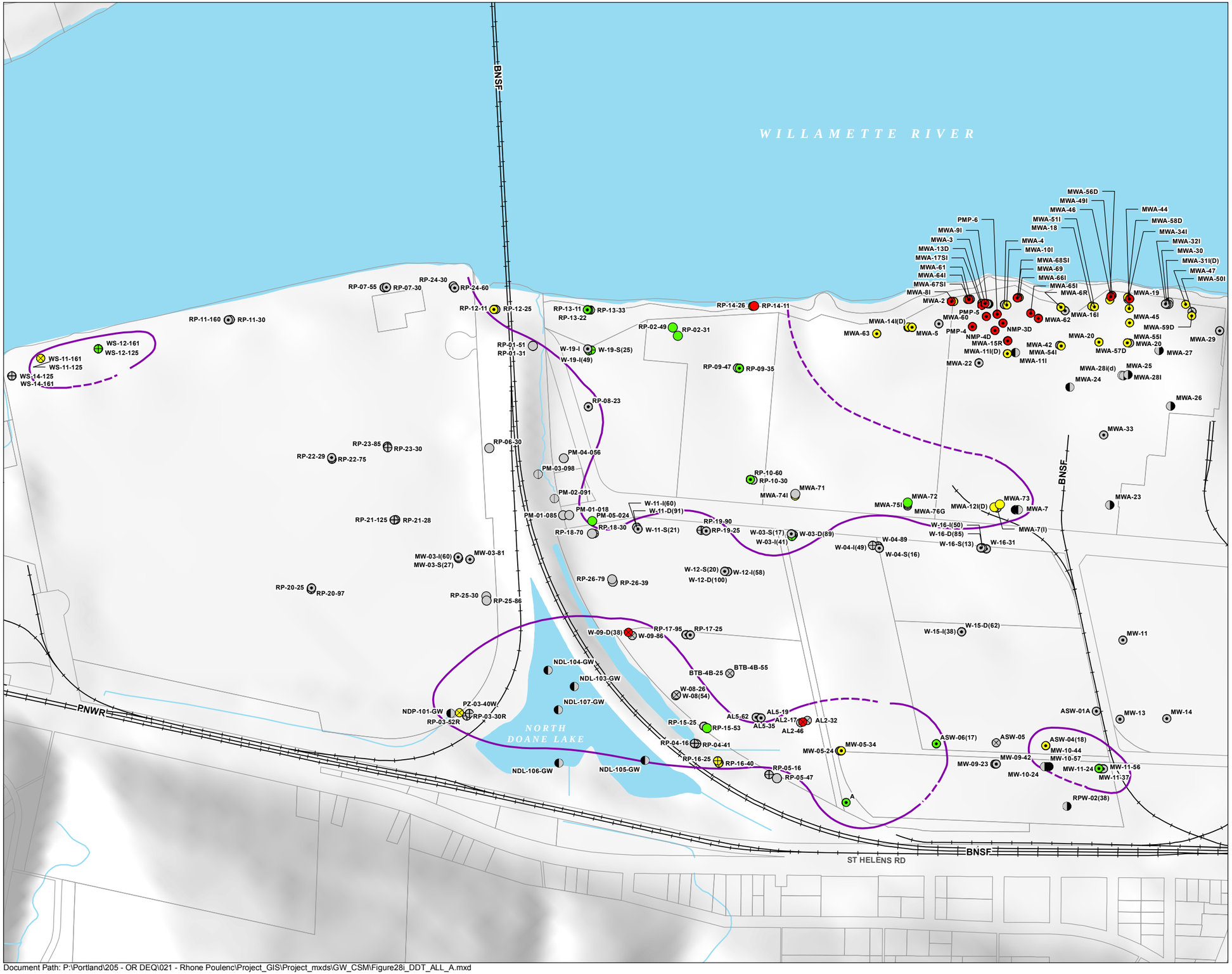
FIGURE 28i

4,4-DDT Results in Groundwater, within Fill and Fine-Grained Alluvium - 2002, 2003, 2006 to 2010

Rhone Poulenc



LEGEND

- 2010
- 2009
- 2008
- 2007
- 2006
- 2003
- 2002

DDT Results (ng/L)

- < 1.0[X]
- > 1.0 - 100[XX]
- > 100
- Non Detect
- Extent of DDT (dashed where inferred)

All Other Features

- Tax Lot
- Railroad
- Waterbody
- Watercourse

NOTES:

ng/L: nanogram per liter.
The concentration for the most recent year sampled is shown. Within that year, the highest detected concentration is shown.
[X] 1.0 ng/L is the screening level value for groundwater presented in the SS8 report.
[XX] 100 ng/L was selected for the range based on the data distribution.

N

0 210 420 630
Feet

MAP NOTES:

Date: March 17, 2015
Data Sources: Rhone Poulenc, METRO
Reference: AMEC Rhone Poulenc Access Database for Groundwater Analytical Data.

GSI Water Solutions, Inc.

Document Path: P:\Portland\205 - OR DEQ\021 - Rhone Poulenc\Project_GIS\Project_mxds\GW_CSM\Figure28i_DDT_ALL_A.mxd

FIGURE 28j

4,4-DDT Results in Groundwater,
within Gravel and Basalt
- 2002, 2003, 2006 to 2010

Rhone Poulenc

LEGEND

- 2010
- 2009
- 2008
- 2007
- 2006
- 2003
- 2002

DDT Results (ng/L)

- < 1.0[X]
- > 1.0 - 100[XX]
- > 100
- Non Detect
- Extent of DDT (dashed where inferred)

All Other Features

- Tax Lot
- Railroad
- Waterbody
- Watercourse

NOTES:

ng/L: nanogram per liter.
The concentration for the most recent year sampled is shown. Within that year, the highest detected concentration is shown.
[X] 1.0 ng/L is the screening level value for groundwater presented in the SS8 report.
[XX] 100 ng/L was selected for the range based on the data distribution.

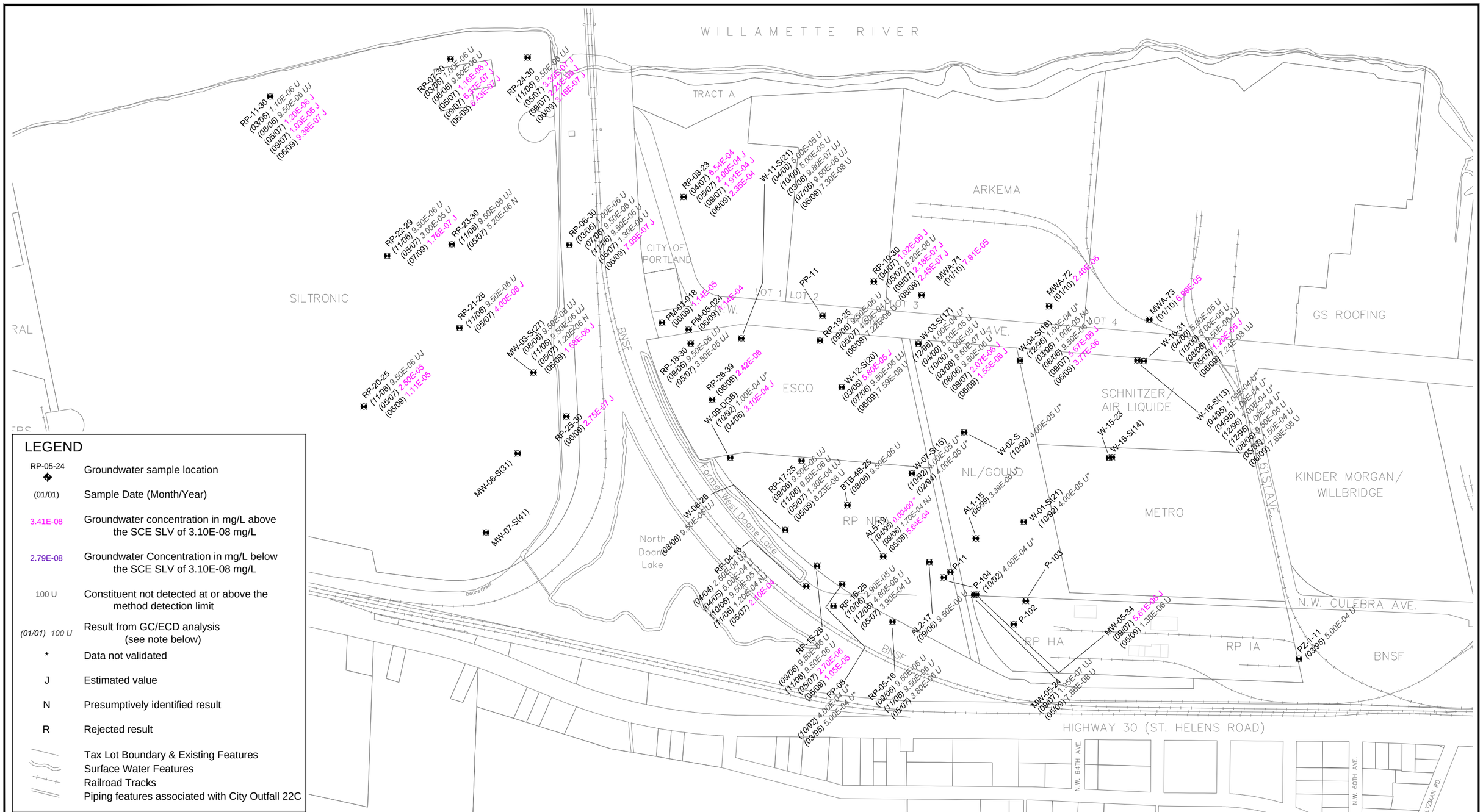
N

0 210 420 630
Feet

MAP NOTES:
Date: March 17, 2015
Data Sources: Rhone Poulenc, METRO
Reference: AMEC Rhone Poulenc Access Database for Groundwater Analytical Data.

GSI Water Solutions, Inc.

Document Path: P:\Portland\205 - OR DEQ\021 - Rhone Poulenc\Project_GIS\Project_mxds\GW_CSM\Figure28j_DDT_ALL_B.mxd



LEGEND

RP-05-24 ◆	Groundwater sample location
(01/01)	Sample Date (Month/Year)
3.41E-08	Groundwater concentration in mg/L above the SCE SLV of 3.10E-08 mg/L
2.79E-08	Groundwater Concentration in mg/L below the SCE SLV of 3.10E-08 mg/L
100 U	Constituent not detected at or above the method detection limit
(01/01) 100 U	Result from GC/ECD analysis (see note below)
*	Data not validated
J	Estimated value
N	Presumptively identified result
R	Rejected result
	Tax Lot Boundary & Existing Features
	Surface Water Features
	Railroad Tracks
	Piping features associated with City Outfall 22C

Note:
Pre-2007 OCI results from GC/ECD analysis are considered potentially unreliable because GC/ECD methods are highly susceptible to matrix interference. These results must be interpreted with caution.

0' 175' 350' 525'

amec

Earth & Environmental
7376 S.W. Durham Road
Portland, OR. U.S.A. 97224

DRAWN BY:	BRJ
QC BY:	-
DATE DRAWN:	OCTOBER 2010
DATUM / PROJECTION:	NAD83 / OR SP N Int Ft
PROJECT NO:	061M107030.0104.002

TITLE: FIGURE K-157
GROUNDWATER ARTIFICIAL FILL
4,4'-DDD (mg/L) COMPARED TO SLV
1984-2010

REPORT:
RI / SCE REPORT
RP - PORTLAND SITE

P:\10703\0100 RI-FS-ROD\0104 RI Report\Draft RI\Figures\dwg\data_figures\SCE\Figures K-157 to 160 GW 4,4'-DDD Compared to SLV.dwg – Data_AF – Oct. 27, 2010 9:59am – brian.johnson

LEGEND

RP-06-87	Groundwater sample location
(01/01)	Sample Date (Month/Year)
3.41E-08	Groundwater concentration in mg/L above the SCE SLV of 3.10E-08 mg/L
2.79E-08	Groundwater Concentration in mg/L below the SCE SLV of 3.10E-08 mg/L
100 U	Constituent not detected at or above the method detection limit
(01/01) *100 U*	Result from GC/ECD analysis (see note below)
*	Data not validated
J	Estimated value
N	Presumptively identified result
R	Rejected result
	Tax Lot Boundary & Existing Features
	Surface Water Features
	Railroad Tracks
	Piping features associated with City Outfall 22C

Note:
Pre-2007 OCI results from GC/ECD analysis are considered potentially unreliable because GC/ECD methods are highly susceptible to matrix interference. These results must be interpreted with caution.

0' 175' 350' 525'

amec

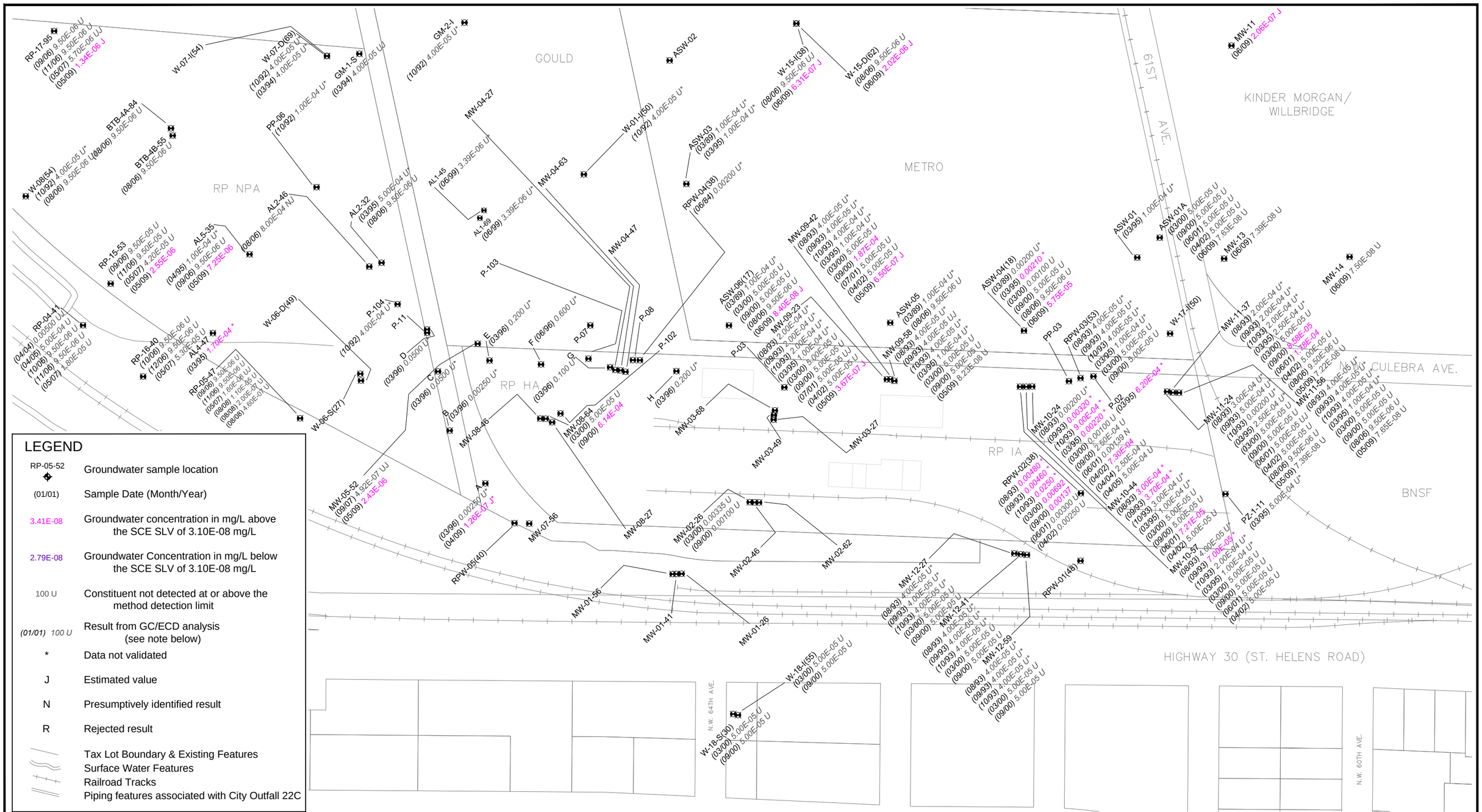
Earth & Environmental
7376 S.W. Durham Road
Portland, OR. U.S.A. 97224

DRAWN BY: BRJ
QC BY: -
DATE DRAWN: OCTOBER 2010
DATUM / PROJECTION: NAD83 / OR SP N Int Ft
PROJECT NO: 061M107030.0104.002

TITLE:
FIGURE K-158
GROUNDWATER FINE-GRAINED ALLUVIUM
4,4'-DDD (mg/L) COMPARED TO SLV
1984-2010

REPORT:
RI / SCE REPORT
RP - PORTLAND SITE

P:\10703\0100 RI-FS-ROD\0104 RI Report\Draft RI\Figures\dwg\data_figures\SCE\Figures K-157 to 160 GW 4,4'-DDD Compared to SLV.dwg — Data_FGA — Oct. 27, 2010 9:59am — brian.johnson



Note:
Pre-2007 OCI results from GC/ECD analysis are considered potentially unreliable because GC/ECD methods are highly susceptible to matrix interference. These results must be interpreted with caution.

amec

Earth & Environmental
7376 S.W. Durham Road
Portland, OR. U.S.A. 97224

DRAWN BY:	BRJ
QC BY:	-
DATE DRAWN:	OCTOBER 2010
DATUM / PROJECTION:	NAD83 / OR SP N Int Ft
PROJECT NO:	061M107030.0104.002

TITLE:
FIGURE K-159
GROUNDWATER FINE-GRAINED ALLUVIUM INSET
4,4'-DDD (mg/L) COMPARED TO SLV
1984-2010

REPORT:
RI / SCE REPORT
RP - PORTLAND SITE

P:\10703\0100 RI-FS-ROD\0104 RI Report\Draft RI\Figures\dwg\data_figures\SCE\Figures K-157 to 160 GW 4,4'-DDD Compared to SLV.dwg – Data_FGA_Zoom – Oct. 27, 2010 9:59am – brian.johnson

LEGEND

RP-05-70	Groundwater sample location
(01/01)	Sample Date (Month/Year)
3.41E-08	Groundwater concentration in mg/L above the SCE SLV of 3.10E-08 mg/L
2.79E-08	Groundwater Concentration in mg/L below the SCE SLV of 3.10E-08 mg/L
100 U	Constituent not detected at or above the method detection limit
(01/01) *100 U*	Result from GC/ECD analysis (see note below)
*	Data not validated
J	Estimated value
N	Presumptively identified result
R	Rejected result
	Tax Lot Boundary & Existing Features
	Surface Water Features
	Railroad Tracks
	Piping features associated with City Outfall 22C

Note:
Pre-2007 OCI results from GC/ECD analysis are considered potentially unreliable because GC/ECD methods are highly susceptible to matrix interference. These results must be interpreted with caution.

0' 175' 350' 525'

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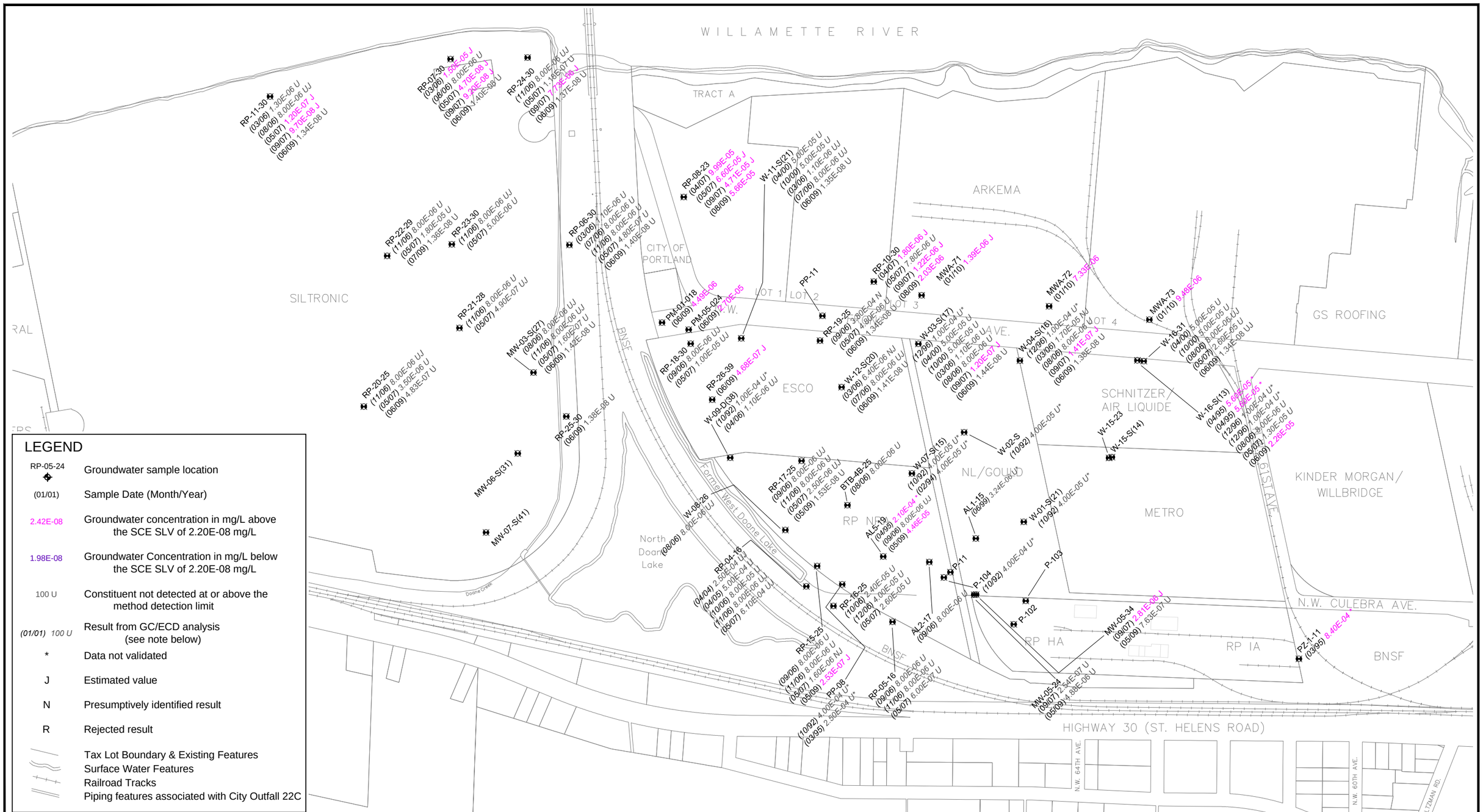
DRAWN BY: BRJ
QC BY: -
DATE DRAWN: OCTOBER 2010
DATUM / PROJECTION: NAD83 / OR SP N Int Ft
PROJECT NO: 061M107030.0104.002

TITLE:
FIGURE K-160
GROUNDWATER ALLUVIAL-COLLUVIAL GRAVEL, TROUTDALE FORMATION, AND CRBG
4,4'-DDD (mg/L) COMPARED TO SLV
1984-2010

REPORT:
RI / SCE REPORT
RP - PORTLAND SITE

P:\10703\0100 RI-FS-ROD\0104 RI Report\Draft RI\Figures\dwg\data_figures\SCE\Figures K-157 to 160 GW 4,4'-DDD Compared to SLV.dwg – Data_ACG_CRBG_Troutdale – Oct. 27, 2010 9:59am – brian.johnson



Note:
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DATE DRAWN:	OCTOBER 2010
DATUM / PROJECTION:	NAD83 / OR SP N Int Ft
PROJECT NO:	061M107030.0104.002

TITLE: FIGURE K-161
GROUNDWATER ARTIFICIAL FILL
4,4'-DDE (mg/L) COMPARED TO SLV
1984-2010

REPORT:
RI / SCE REPORT
RP - PORTLAND SITE

P:\10703\0100 RI-FS-ROD\0104 RI Report\Draft RI\Figures\dwg\data_figures\SCE\Figures K-161 to 164 GW 4,4'-DDE Compared to SLV.dwg — Data_AF — Oct. 27, 2010 9:59am — brian.johnson

LEGEND

RP-06-87	Groundwater sample location
(01/01)	Sample Date (Month/Year)
2.42E-08	Groundwater concentration in mg/L above the SCE SLV of 2.20E-08 mg/L
1.98E-08	Groundwater Concentration in mg/L below the SCE SLV of 2.20E-08 mg/L
100 U	Constituent not detected at or above the method detection limit
(01/01) *100 U*	Result from GC/ECD analysis (see note below)
*	Data not validated
J	Estimated value
N	Presumptively identified result
R	Rejected result
	Tax Lot Boundary & Existing Features
	Surface Water Features
	Railroad Tracks
	Piping features associated with City Outfall 22C

Note:
Pre-2007 OCI results from GC/ECD analysis are considered potentially unreliable because GC/ECD methods are highly susceptible to matrix interference. These results must be interpreted with caution.

0' 175' 350' 525'

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QC BY:	-
DATE DRAWN:	OCTOBER 2010
DATUM / PROJECTION:	NAD83 / OR SP N Int Ft
PROJECT NO:	061M107030.0104.002

TITLE:
FIGURE K-162
GROUNDWATER FINE-GRAINED ALLUVIUM 4,4'-DDE (mg/L) COMPARED TO SLV 1984-2010

REPORT:
RI / SCE REPORT
RP - PORTLAND SITE

P:\10703\0100 RI-FS-ROD\0104 RI Report\Draft RI\Figures\dwg\data_figures\SCE\Figures K-161 to 164 GW 4,4'-DDE Compared to SLV.dwg — Data_FGA — Oct. 27, 2010 9:59am — brian.johnson

LEGEND

RP-05-52	Groundwater sample location
(01/01)	Sample Date (Month/Year)
2.42E-08	Groundwater concentration in mg/L above the SCE SLV of 2.20E-08 mg/L
1.98E-08	Groundwater Concentration in mg/L below the SCE SLV of 2.20E-08 mg/L
100 U	Constituent not detected at or above the method detection limit
(01/01) *100 U*	Result from GC/ECD analysis (see note below)
*	Data not validated
J	Estimated value
N	Presumptively identified result
R	Rejected result
	Tax Lot Boundary & Existing Features
	Surface Water Features
	Railroad Tracks
	Piping features associated with City Outfall 22C

Note:
Pre-2007 OCI results from GC/ECD analysis are considered potentially unreliable because GC/ECD methods are highly susceptible to matrix interference. These results must be interpreted with caution.

0' 75' 150' 225'

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DATUM / PROJECTION: NAD83 / OR SP N Int Ft
PROJECT NO: 061M107030.0104.002

TITLE:
FIGURE K-163
GROUNDWATER FINE-GRAINED ALLUVIUM INSET
4,4'-DDE (mg/L) COMPARED TO SLV
1984-2010

REPORT:
RI / SCE REPORT
RP - PORTLAND SITE

P:\10703\0100 RI-FS-ROD\0104 RI Report\Draft RI\Figures\dwg\data_figures\SCE\Figures K-161 to 164 GW 4,4'-DDE Compared to SLV.dwg – Data_FGA_Zoom – Oct. 27, 2010 9:59am – brian.johnson

LEGEND

RP-05-70	Groundwater sample location
(01/01)	Sample Date (Month/Year)
2.42E-08	Groundwater concentration in mg/L above the SCE SLV of 2.20E-08 mg/L
1.98E-08	Groundwater Concentration in mg/L below the SCE SLV of 2.20E-08 mg/L
100 U	Constituent not detected at or above the method detection limit
(01/01) 100 U	Result from GC/ECD analysis (see note below)
*	Data not validated
J	Estimated value
N	Presumptively identified result
R	Rejected result
	Tax Lot Boundary & Existing Features
	Surface Water Features
	Railroad Tracks
	Piping features associated with City Outfall 22C

Note:
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0' 175' 350' 525'

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PROJECT NO:	061M107030.0104.002

TITLE:
FIGURE K-164
GROUNDWATER ALLUVIAL-COLLUVIAL GRAVEL, TROUTDALE FORMATION, AND CRBG
4,4'-DDE (mg/L) COMPARED TO SLV
1984-2010

REPORT:
RI / SCE REPORT
RP - PORTLAND SITE

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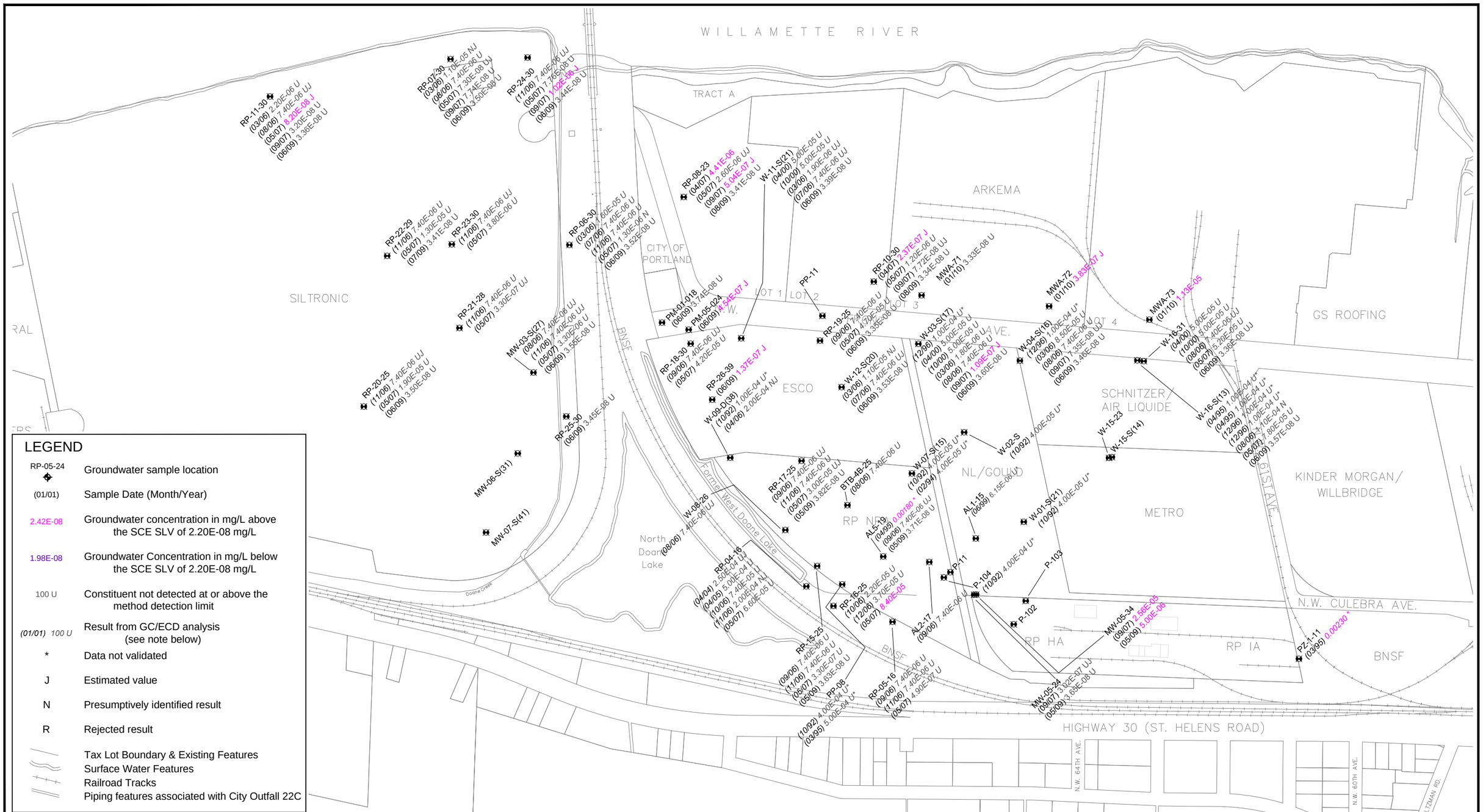

LEGEND

RP-05-24	Groundwater sample location
(01/01)	Sample Date (Month/Year)
2.42E-08	Groundwater concentration in mg/L above the SCE SLV of 2.20E-08 mg/L
1.98E-08	Groundwater Concentration in mg/L below the SCE SLV of 2.20E-08 mg/L
100 U	Constituent not detected at or above the method detection limit
(01/01) 100 U	Result from GC/ECD analysis (see note below)
*	Data not validated
J	Estimated value
N	Presumptively identified result
R	Rejected result
	Tax Lot Boundary & Existing Features
	Surface Water Features
	Railroad Tracks
	Piping features associated with City Outfall 22C

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DATE DRAWN: OCTOBER 2010
DATUM / PROJECTION: NAD83 / OR SP N Int Ft
PROJECT NO: 061M107030.0104.002

TITLE: FIGURE K-165
GROUNDWATER ARTIFICIAL FILL
4,4'-DDT (mg/L) COMPARED TO SLV
1984-2010

REPORT: RI / SCE REPORT
RP - PORTLAND SITE

P:\10703\0100 RI-FS-ROD\0104 RI Report\Draft RI\Figures\dwg\data_figures\SCE\Figures K-165 to 168 GW 4,4'-DDT Compared to SLV.dwg — Data_AF — Oct. 27, 2010 10:00am — brian.johnson

LEGEND

RP-06-87 ◆	Groundwater sample location
(01/01)	Sample Date (Month/Year)
2.42E-08	Groundwater concentration in mg/L above the SCE SLV of 2.20E-08 mg/L
1.98E-08	Groundwater Concentration in mg/L below the SCE SLV of 2.20E-08 mg/L
100 U	Constituent not detected at or above the method detection limit
(01/01) *100 U*	Result from GC/ECD analysis (see note below)
*	Data not validated
J	Estimated value
N	Presumptively identified result
R	Rejected result
	Tax Lot Boundary & Existing Features
	Surface Water Features
	Railroad Tracks
	Piping features associated with City Outfall 22C

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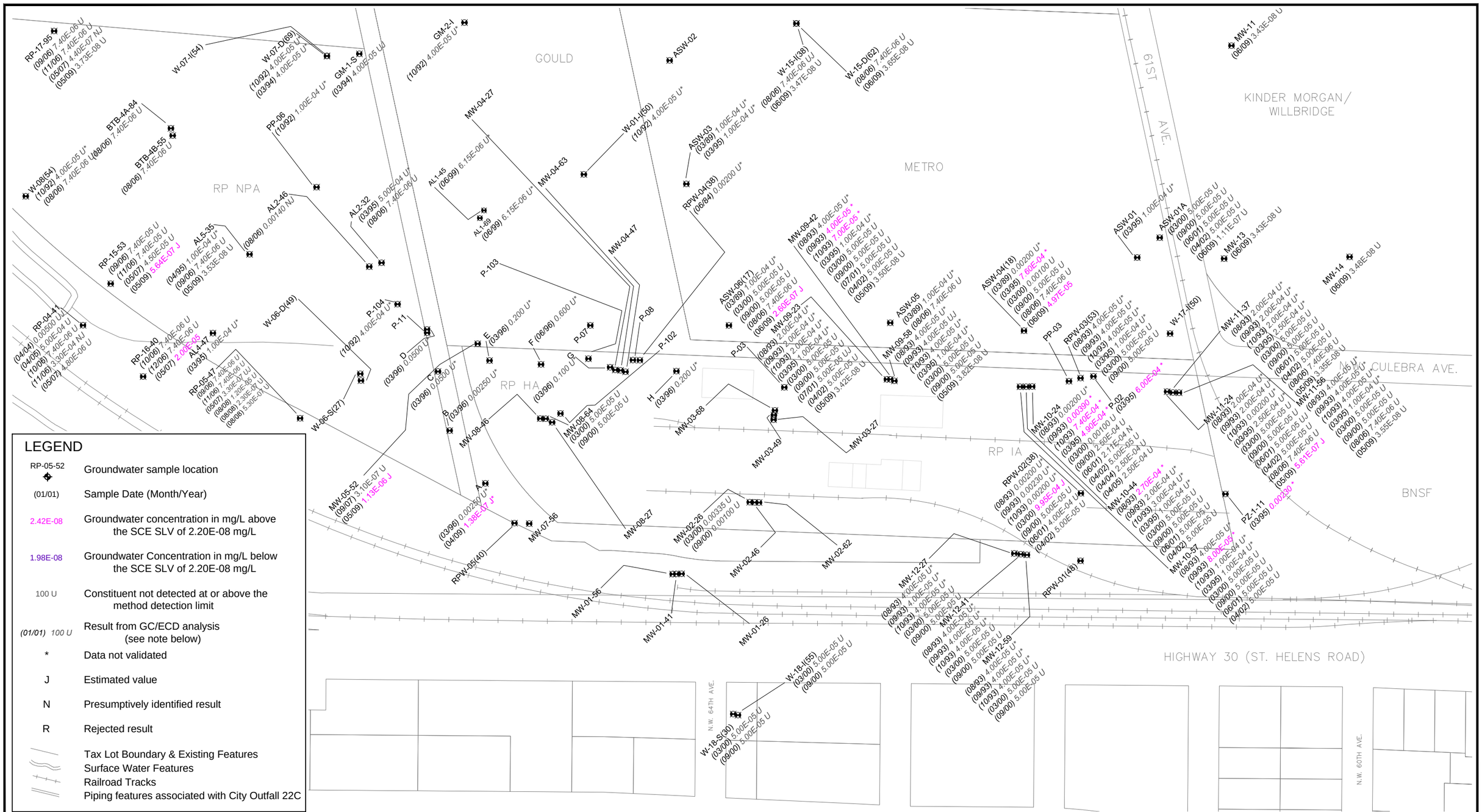
QC BY:	-
DATE DRAWN:	OCTOBER 2010
DATUM / PROJECTION:	NAD83 / OR SP N Int Ft
PROJECT NO:	061M107030.0104.002

TITLE:
FIGURE K-166
GROUNDWATER FINE-GRAINED ALLUVIUM
4,4'-DDT (mg/L) COMPARED TO SLV
1984-2010

REPORT:
RI / SCE REPORT
RP - PORTLAND SITE

P:\10703\0100 RI-FS-ROD\0104 RI Report\Draft RI\Figures\dwg\data_figures\SCE\Figures K-165 to 168 GW 4,4'-DDT Compared to SLV.dwg — Data_FGA — Oct. 27, 2010 10:00am — brian.johnson



Note:
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QC BY:	-
DATE DRAWN:	OCTOBER 2010
DATUM / PROJECTION:	NAD83 / OR SP N Int Ft
PROJECT NO:	061M107030.0104.002

TITLE:
FIGURE K-167
GROUNDWATER FINE-GRAINED ALLUVIUM INSET
4,4'-DDT (mg/L) COMPARED TO SLV
1984-2010

REPORT:
RI / SCE REPORT
RP - PORTLAND SITE

P:\10703\0100 RI-FS-ROD\0104 RI Report\Draft RI\Figures\dwg\data_figures\SCE\Figures K-165 to 168 GW 4,4'-DDT Compared to SLV.dwg – Data_FGA_Zoom – Oct. 27, 2010 10:00am – brian.johnson

LEGEND

RP-05-70	Groundwater sample location
(01/01)	Sample Date (Month/Year)
2.42E-08	Groundwater concentration in mg/L above the SCE SLV of 2.20E-08 mg/L
1.98E-08	Groundwater Concentration in mg/L below the SCE SLV of 2.20E-08 mg/L
100 U	Constituent not detected at or above the method detection limit
(01/01) *100 U*	Result from GC/ECD analysis (see note below)
*	Data not validated
J	Estimated value
N	Presumptively identified result
R	Rejected result
	Tax Lot Boundary & Existing Features
	Surface Water Features
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	Piping features associated with City Outfall 22C

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DATE DRAWN: OCTOBER 2010
DATUM / PROJECTION: NAD83 / OR SP N Int Ft
PROJECT NO: 061M107030.0104.002

TITLE:
FIGURE K-168
GROUNDWATER ALLUVIAL-COLLUVIAL GRAVEL, TROUTDALE FORMATION, AND CRBG
4,4'-DDT (mg/L) COMPARED TO SLV
1984-2010

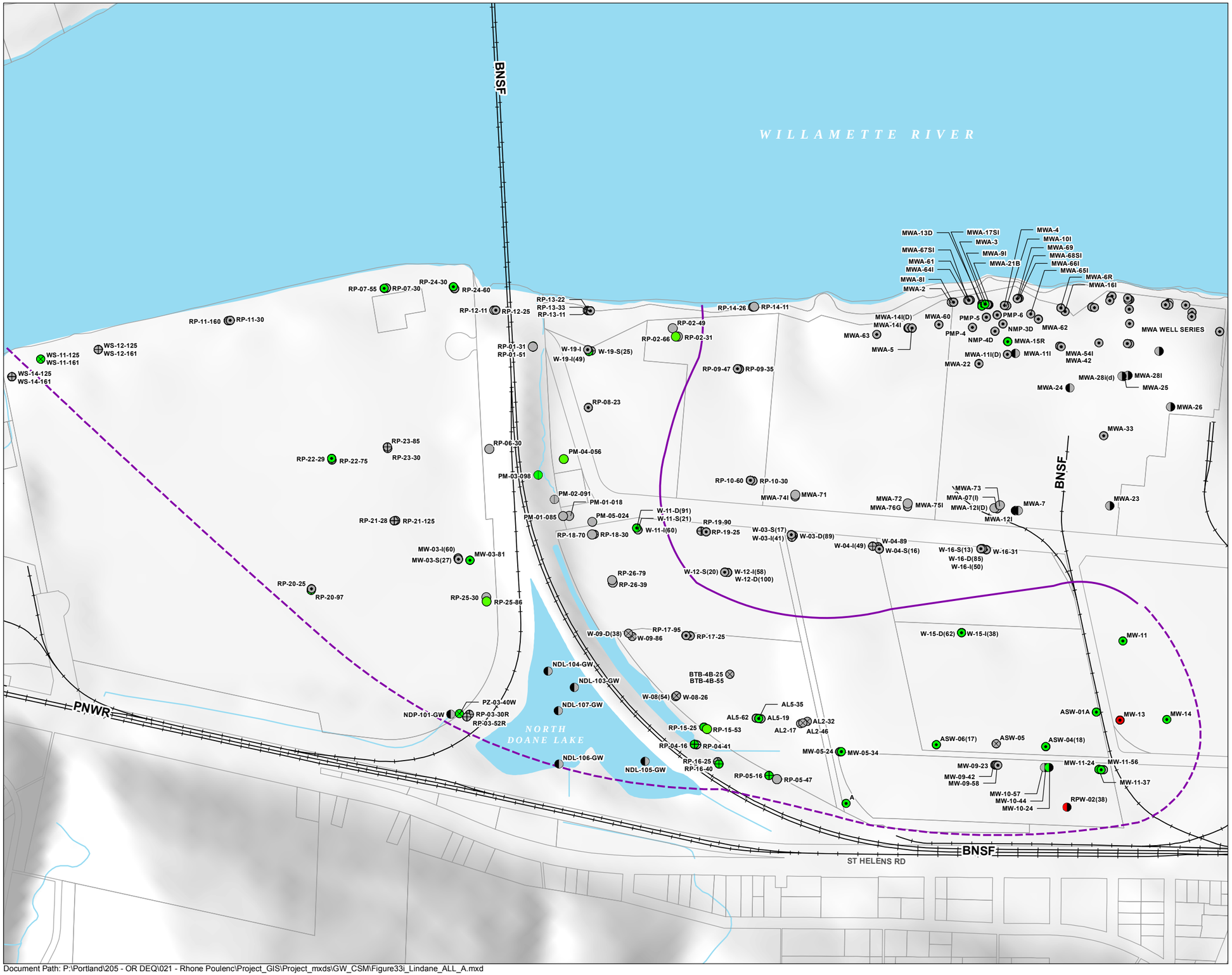
REPORT:
RI / SCE REPORT
RP - PORTLAND SITE

P:\10703\0100 RI-FS-ROD\0104 RI Report\Draft RI\Figures\dwg\data_figures\SCE\Figures K-165 to 168 GW 4,4'-DDT Compared to SLV.dwg — Data_ACG_CRBG_Troutdale — Oct. 27, 2010 10:00am — brian.johnson

FIGURE 33i

Lindane Results
in Groundwater, within Fill and Fine-Grained Alluvium - 2002, 2003, 2006 to 2010

Rhone Poulenc



LEGEND

Sample Year

- 2010
- 2009
- 2008
- 2007
- 2006
- 2003
- 2002

Lindane Results (ug/L)

- < 2.2
- > 2.2 - 5.2
- > 5.2
- Non Detect
- Extent of Lindane (dashed where inferred)

All Other Features

- Tax Lot
- Railroad
- Waterbody
- Watercourse

NOTES:

ug/L: microgram per liter.
The concentration for the most recent year sampled is shown. Within that year, the highest detected concentration is shown.
[X] 2.2 ug/L is the screening level value for groundwater presented in the SS8 report.
[XX] 5.2 ug/L represents a natural break in the distribution of data.

N

0 210 420 630
Feet

MAP NOTES:

Date: March 17, 2015
Data Sources: Rhone Poulenc, METRO
Reference: AMEC Rhone Poulenc Access Database for Groundwater Analytical Data.

GSI Water Solutions, Inc.

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FIGURE 33j

Lindane Results
in Groundwater, within Gravel
and Basalt - 2002, 2003, 2006 to 2010

Rhone Poulenc

LEGEND

Sample Year

- 2010
- 2009
- 2008
- 2007
- 2006
- 2003
- 2002

Lindane Results (ug/L)

- < 2.2[X]
- > 2.2 - 5.2[XX]
- > 5.2
- Non Detect
- Extent of Lindane (dashed where inferred)

All Other Features

- Tax Lot
- Railroad
- Waterbody
- Watercourse

NOTES:

ug/L: microgram per liter.
The concentration for the most recent year sampled is shown. Within that year, the highest detected concentration is shown.
[X] 2.2 ug/L is the screening level value for groundwater presented in the SS8 report.
[XX] 5.2 ug/L represents a natural break in the distribution of data.

0 210 420 630
Feet

MAP NOTES:

Date: March 17, 2015
Data Sources: Rhone Poulenc, METRO
Reference: AMEC Rhone Poulenc Access Database for Groundwater Analytical Data.

GSI Water Solutions, Inc.

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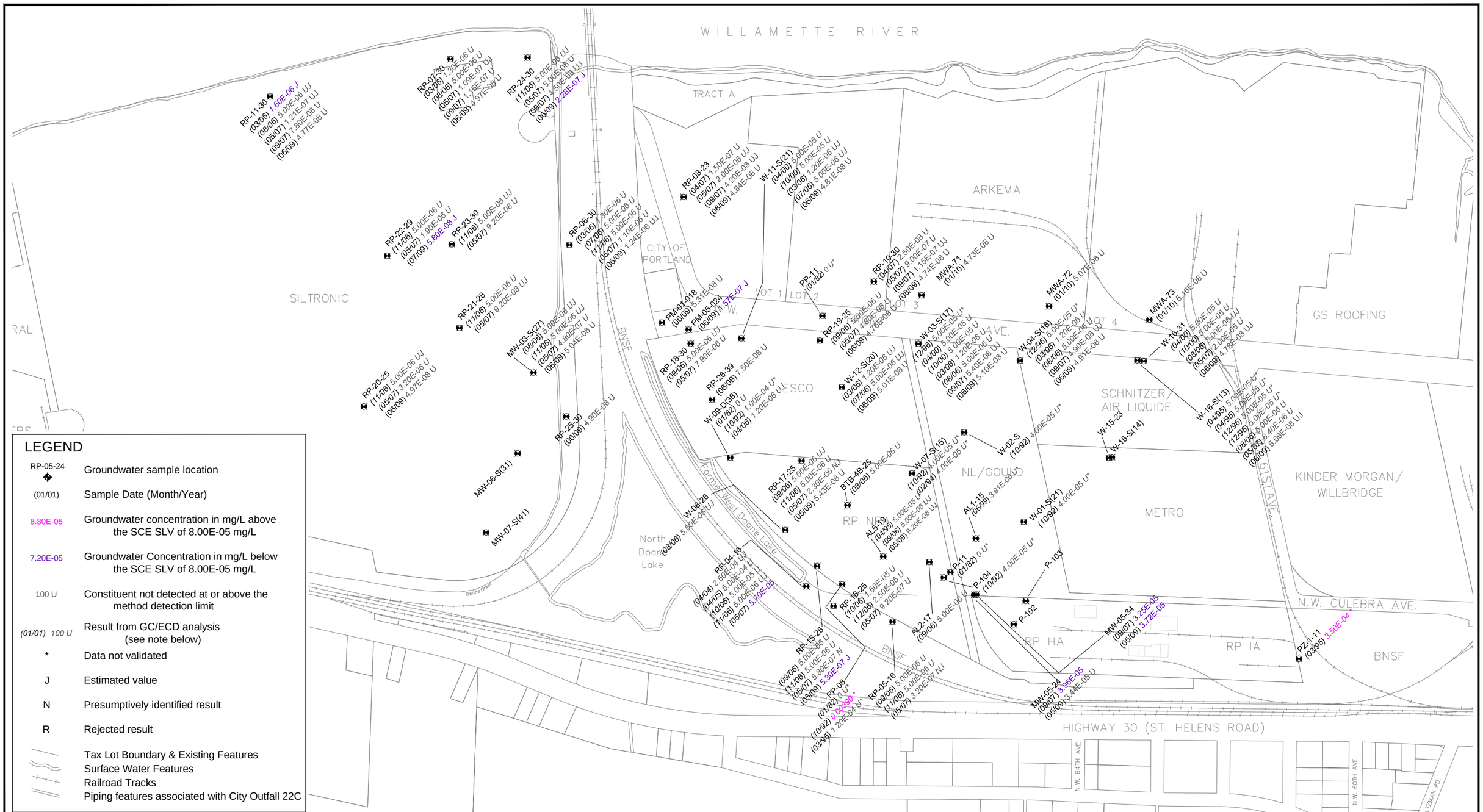

LEGEND

RP-05-24 ⊕	Groundwater sample location
(01/01)	Sample Date (Month/Year)
8.80E-05	Groundwater concentration in mg/L above the SCE SLV of 8.00E-05 mg/L
7.20E-05	Groundwater Concentration in mg/L below the SCE SLV of 8.00E-05 mg/L
100 U	Constituent not detected at or above the method detection limit
(01/01) 100 U	Result from GC/ECD analysis (see note below)
*	Data not validated
J	Estimated value
N	Presumptively identified result
R	Rejected result
	Tax Lot Boundary & Existing Features
	Surface Water Features
	Railroad Tracks
	Piping features associated with City Outfall 22C

Note:
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0' 175' 350' 525'

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PROJECT NO: 061M107030.0104.002

TITLE: FIGURE K-205
GROUNDWATER ARTIFICIAL FILL
LINDANE (mg/L) COMPARED TO SLV
1982-2010

REPORT: RI / SCE REPORT
RP - PORTLAND SITE

P:\10703\0100 RI-FS-ROD\0104 RI Report\Draft RI\Figures\dwg\data_figures\SCE\Figures K-205 to 208 GW Lindane Compared to SLV.dwg — Data_AF — Oct. 27, 2010 10:02am — brian.johnson

LEGEND

RP-06-87	Groundwater sample location
(01/01)	Sample Date (Month/Year)
8.80E-05	Groundwater concentration in mg/L above the SCE SLV of 8.00E-05 mg/L
7.20E-05	Groundwater Concentration in mg/L below the SCE SLV of 8.00E-05 mg/L
100 U	Constituent not detected at or above the method detection limit
(01/01) *100 U*	Result from GC/ECD analysis (see note below)
*	Data not validated
J	Estimated value
N	Presumptively identified result
R	Rejected result
	Tax Lot Boundary & Existing Features
	Surface Water Features
	Railroad Tracks
	Piping features associated with City Outfall 22C

Note:
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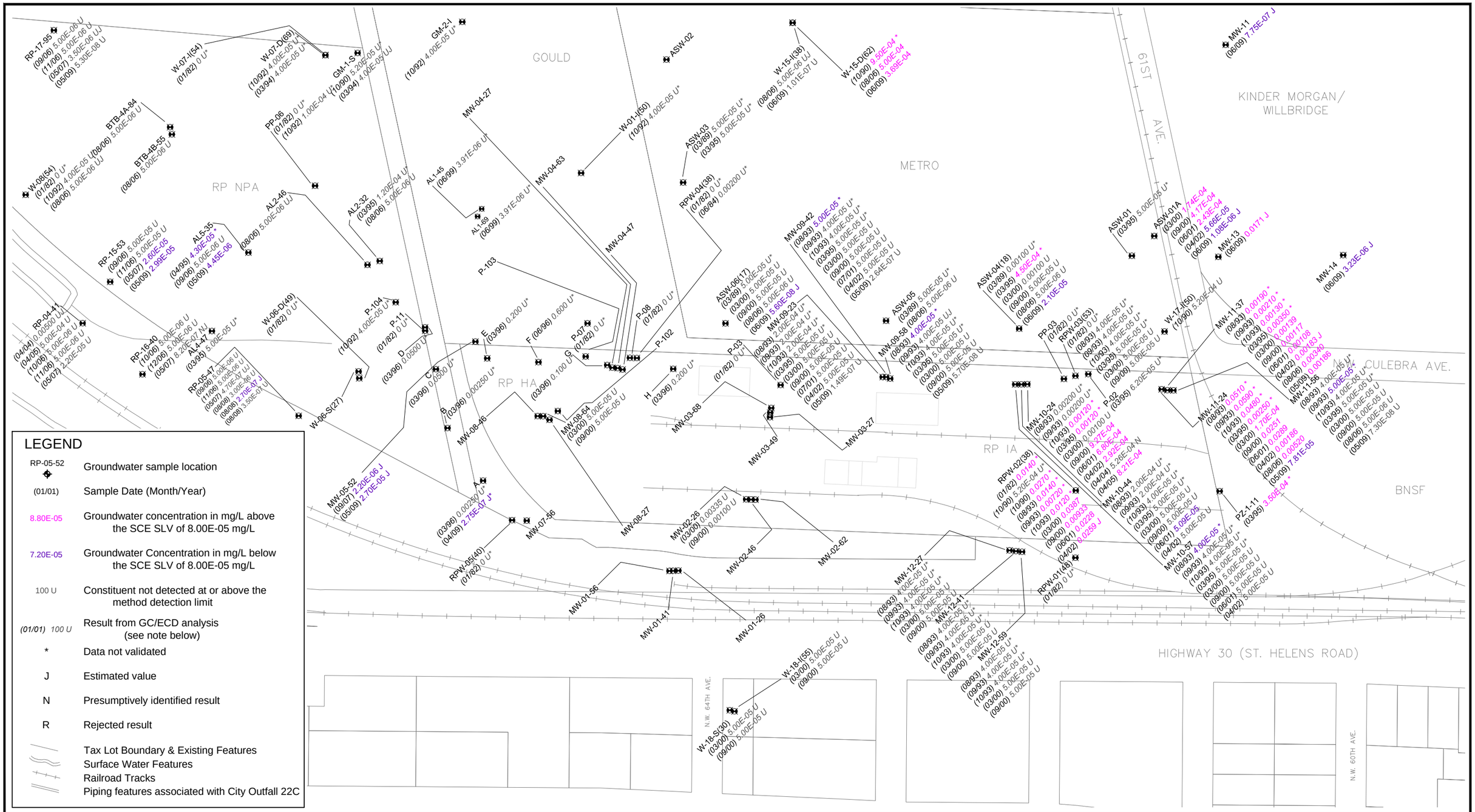
DATE DRAWN: OCTOBER 2010
DATUM / PROJECTION: NAD83 / OR SP N Int Ft
PROJECT NO: 061M107030.0104.002

TITLE:
FIGURE K-206
GROUNDWATER FINE-GRAINED ALLUVIUM LINDANE (mg/L) COMPARED TO SLV 1982-2010

REPORT:
RI / SCE REPORT
RP - PORTLAND SITE

P:\10703\0100 RI-FS-ROD\0104 RI Report\Draft RI\Figures\dwg\data_figures\SCE\Figures K-205 to 208 GW Lindane Compared to SLV.dwg – Data_FGA – Oct. 27, 2010 10:02am – brian.johnson



Note:
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QC BY:	-
DATE DRAWN:	OCTOBER 2010
DATUM / PROJECTION:	NAD83 / OR SP N Int Ft
PROJECT NO:	061M107030.0104.002

TITLE:
FIGURE K-207
GROUNDWATER FINE-GRAINED ALLUVIUM INSET
LINDANE (mg/L) COMPARED TO SLV
1982-2010

REPORT:
RI / SCE REPORT
RP - PORTLAND SITE

P:\10703\0100 RI-FS-ROD\0104 RI Report\Draft RI\Figures\dwg\data_figures\SCE\Figures K-205 to 208 GW Lindane Compared to SLV.dwg – Data_FGA_Zoom – Oct. 27, 2010 10:03am – brian.johnson

LEGEND

RP-05-70 ⊕	Groundwater sample location
(01/01)	Sample Date (Month/Year)
8.80E-05	Groundwater concentration in mg/L above the SCE SLV of 8.00E-05 mg/L
7.20E-05	Groundwater Concentration in mg/L below the SCE SLV of 8.00E-05 mg/L
100 U	Constituent not detected at or above the method detection limit
(01/01) 100 U	Result from GC/ECD analysis (see note below)
*	Data not validated
J	Estimated value
N	Presumptively identified result
R	Rejected result
	Tax Lot Boundary & Existing Features
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QC BY: -
DATE DRAWN: OCTOBER 2010
DATUM / PROJECTION: NAD83 / OR SP N Int Ft
PROJECT NO: 061M107030.0104.002

TITLE:
FIGURE K-208
GROUNDWATER ALLUVIAL-COLLUVIAL GRAVEL, TROUTDALE FORMATION, AND CRBG
LINDANE (mg/L) COMPARED TO SLV
1982-2010

REPORT:
RI / SCE REPORT
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